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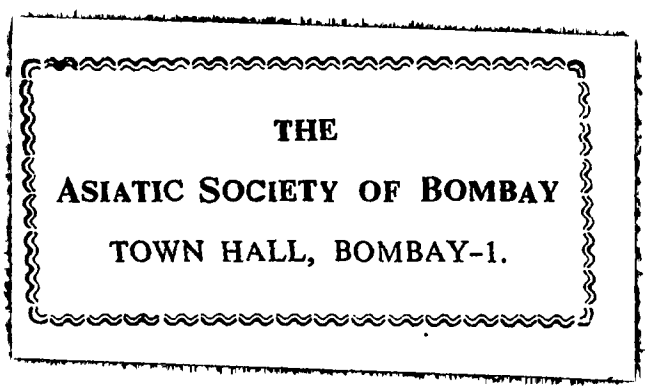

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REPORT

Volume VII

Evidence and Documents

GENERAL MEMORANDA AND ORAL EVIDENCE

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I. AGRICULTURAL EDUCATION.

General Memoranda.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

The object of providing agricultural education in a university may be stated as follows:—

(*a*) To train young men to adopt agriculture as a profession and thus provide new openings for them.

(*b*) To give an agricultural basis to our whole educational system.

(*c*) To raise agriculture to the dignity of other professions such as medicine, engineering, law, etc.

Before the first object can be achieved, however, it is essential that it should be definitely demonstrated that scientific agriculture will provide a decent income to the middle class young men. Once this is done, there will be no dearth of young men willing to receive agricultural training. This will greatly relieve the congestion in the sister professions. This is, however, mainly a work for Government. It is highly desirable that Government should have a large number of demonstration farms, which will be run to show how agriculture can be made to pay by following up-to-date methods.

It is very important that the agricultural degree should be exactly on a par with the other degrees and should be given equal recognition by Government. It is quite true that the object of making agricultural education a part of the university course will be frustrated if the people take the degree simply with the object of entering Government service. On the other hand, the people will tend to look down upon agricultural degrees if it is known that Government does not recognise this degree as of equal value with the other bachelor degrees. In addition to the Department of Agriculture which is rapidly expanding, there are various other departments where a knowledge of agriculture is likely to be of distinct advantage to the officers, such as settlement, court of wards, sub-deputy collectors employed in *Khas Mehals* or as circle officers, and inspectors of co-operative credit societies. In addition to these, zemindars might be encouraged to employ these graduates in their estates. A fair proportion of the zemindars (landlords) are now going to the University for the sake of a general training. They may profitably take this agricultural course which they will find very useful in after life. The inclusion of men trained in agriculture in the general administrative staff of the province is bound to reflect on the general agricultural practices of the people. It must not be forgotten that 85 per cent. of Bengal's population depend on agriculture for their living, and no system of education can be regarded as sound which does not take into account that after all agriculture must be Bengal's main industry. But the education given in the University must not be purely theoretical and must fit a man, after a reasonable period of probation, to carry on work on his own responsibility.

It may take a little time to establish a fully-equipped agicultural college, but a beginning could be made almost immediately either at Dacca or at Rangpur. There are three Government farms in Rangpur. Arrangements might perhaps be made to give the students a practical training on any of these. Rangpur has the unique advantage of having a cattle farm. The soil and climate of Rangpur is suitable for growing all the representative crops of Bengal. The district of Rangpur is essentially an agricultural district, and there is a large class of well-to-do zemindars (landlords) and jotedars (middle men) who also take to agriculture as one of their means of living. A majority of them could easily afford the cost of a university training if a practical course suitable for them were devised. They are already showing a great inclination for better and improved agricultural methods by accepting improved implements and also a better class of seeds, as will appear from the results of the different farms here.

Even if it be not possible to establish a fully-equipped agricultural college at once, it may be quite possible to include a few agricultural subjects in the curricula of the regular science course. The subjects which appear to me quite suitable for the purpose, and

CHATTERJEE, Rai Bahadur SARAT CHANDRA—*contd.*—GUPTA, J. N.

for the teaching of which arrangements could easily be made at Rangpur, are agricultural botany, including mycology; agricultural zoology, including entomology; agricultural chemistry, including dairy chemistry and the manufacture of sugar; mechanics, including the study of agricultural machinery, dairying and the study of the several manufactures from the different agricultural products, such as tobacco, sugarcane, etc.

A question was raised as to what openings in after life will be available for men who will thus be trained in any agricultural course in any university. I have already indicated how a number of them can be employed in the different departments of the Government service with advantage both to the people so employed and to the departments in which they are employed. Employments have also to be found for them by opening new industries and manufactories in this and neighbouring districts. The district of Rangpur and the neighbouring districts grow jute, tobacco, sugarcane and potato and also paddy in abundance and the bulk of the produce, and in some cases the entire produce, is sent far away from these districts for purposes of manufacture. But, if factories for the manufacture of materials from these raw products could be established in this part of the country, it would be a distinct advantage to the country itself, and they will serve to give profitable employment to many of the men trained by the colleges and universities, if they are properly taught on the lines of those industries and manufacture. There being at present absolutely no industry of the kind in this part of the country, capital is naturally shy. It will be for Government to encourage these industries in the first instance by the following means:—

(i) Opening up and managing factories, and gradually as they develope and people begin to appreciate their usefulness and value, to transfer them into the hands of local people forming themselves into limited companies.
(ii) Encouraging any industry that the local people may try to open up, by securing for them experts and expert advice for their proper management and conduct.
(iii) Encouraging the establishment of small home industries.
(iv) Developing and encouraging joint-stock companies on co-operative principles.

GUPTA, J. N.

In the special economic condition of Bengal and of India generally, it is obviously very important to have a recognised agricultural course included in the university curricula. It will be most desirable to raise agriculture to the dignity of other professions, and to provide suitable training for young men who might like to adopt agriculture as a profession.

Reforms and changes in the system and standard of University education must be preceded by simultaneous changes in the education to be imparted in our schools. The question of agricultural education in rural schools has been discussed by me in my pamphlet "Rangpur To-day."

As regards the creation of a new degree in agricultural education and the popularisation of agricultural education, it is obvious that as in the case of industrial education agricultural openings will have to be created, and it must be demonstrated that scientific agriculture will provide a decent living to the middle class young men. Once this is done there will be no dearth of young men willing to avail themselves of agricultural training. This is, however, mainly a work for Government and for public-spirited zamindars. It is highly desirable that Government should have a large number of demonstration farms which will be run with a view to proving that agriculture may be a profitable occupation if improved methods are followed.

It is also important that the agricultural degree should be exactly on a par with the other degrees and should receive equal recognition. It may be urged that the object of making agricultural education a part of the university course will be frustrated if the people take the degree simply with the object of entering Government service. But as matters stand now in all professional studies like engineering, medicine, etc., a large proportion of the students necessarily consist of those seeking employment either under Government or with private parties. But it is only a few who secure such appointments,

and the surplus graduates have now built up a private profession in each of these branches. There is every reason to believe that similar will be the case with agriculture where the field is very much larger. But it is essential that the necessary educational facilities should first be given. The Department of Agriculture is rapidly expanding and Government is gradually associating Indians with the higher branches of the service. It is very desirable that there should be some institution in the province itself which will fit them for carrying on investigations and for qualifying for these higher appointments. In addition to the Department of Agriculture, which is rapidly expanding, there are various other departments under Government where some knowledge of agriculture will be of distinct advantage to the officers. Some of these may be named, *e.g.*, settlement, court of wards, *Khas Mehats* or circle system and co-operative credit. In addition to these departments of Government, zamindars are also likely to employ these graduates in their estates. It is also likely that sons of zamindars who are now going to the University in increasing numbers for the sake of general training might like to take the agricultural course instead of the arts course.

The agricultural education to be given in the University must not, however, be purely theoretical and must fit a man, after a reasonable period of probation, to carry on either practical or scientific agricultural work on his own responsibility. A farm must therefore be attached to an agricultural college where the students will undergo practical training along with their studies. It may perhaps be necessary to make the bestowal of a degree conditional on the completion of a year's practical training on a farm. However carefully devised, a practical training is hardly satisfactory unless the man going through it has an opportunity of doing some responsible work, and this is very difficult to arrange during the college course.

It may take a little time to establish a fully equipped agricultural college in Bengal, but a beginning could be made almost immediately either at Dacca or at Rangpur, and arrangements might perhaps be made to give the students a practical training on any of the three Government farms at Rangpur. Rangpur has the unique advantage of having a cattle farm. The soil and climate of Rangpur are suitable for growing all representative crops of Bengal. The district is a purely agricultural one and there is a large class of small zamindars and well-to-do jotedars (landed proprietors) who depend on agriculture for their living. They would receive great practical benefit if they had an agricultural education, and most of them could easily afford the cost of a university training if a practical course suitable for them were devised. Even if it be not possible to establish a fully equipped agricultural college at once, it may be quite possible to include a few agricultural subjects in the curricula of the regular science course. The following subjects appear to me quite suitable for the purpose, arrangements for which could easily be made at Rangpur, *e.g.*, agricultural botany, including mycology; agricultural zoology, including entomology; agricultural geology, including study of soils; agricultural chemistry, including dairy chemistry and manufacture of sugar; mechanics, including study of agricultural machinery, dairying and the study of some special crops, such as tobacco or surgarcane.

HENDERSON, G. S.

The only point on which I can give information with regard to the enquiry of the Calcutta University Commission, is about my experience with graduates of the Poona Agricultural College which is affiliated to the University of Bombay.

The Poona Agricultural College is one of the oldest of the agricultural colleges in India, and should be in as good a position as any in India, as staff and establishment have been provided on a liberal scale. Consequently, results drawn from this college should be of considerable interest as bearing on the subject matter under enquiry by the Calcutta University Commission.

I was stationed in Sind from 1907 to 1915 in charge of the Agricultural Department and during this time practically the whole existing department in Sind was built up. This meant opening out demonstration and experiment farms in various parts of the

country and building up and training a staff for experiment work, for demonstration work and for itinerant instruction work, etc.

It was decided that the work in Sind should be kept back till graduates were ready from the Agricultural College, Poona.

On account of the rigour and unhealthiness of the climate in Sind, it was found impossible to tempt graduates who were residents of other parts of the Bombay Presidency, to take positions in Sind. In any case the language difficulty would have been a serious bar.

Posts might have been filled with candidates from other departments such as the Public Works Department, etc., but it was considered that, to encourage college graduates, the majority of the posts should be filled by college graduates. Much urgent and important work had to be left or only partially carried out.

Students for training at Poona were recommended by district officials. They received monthly allowances and in some cases special concessions were made with regard to entrance examination to the college.

The results were very bad, the quality of students varied from fair to very bad. They were especially weak in practical work and in ordinary common sense. For farm work, both for research and district work, they lacked a practical outlook on common affairs. For general work they were inferior to corresponding non-graduate "fieldmen."

I am not prepared to state where the training or selection of the students was defective, but it is obvious that one or both were faulty.

I am of the opinion that rigorous selection of the candidates should have been carried out by the officer in charge of the agricultural work in Sind, and that this officer should have had opportunity to inspect the progress of the students during training.

Further, Lyallpur Agricultural College in the Punjab, as being in a tract much more closely related to Sind, would probably be suited to train Sindhi students.

The above is a record of actual experience, but the writer is not in a position to draw the moral or suggest remedies.

HIGGINBOTTOM, S.

Outline of a scheme for the raising of the whole standard of Indian rural life by means of the further development of agriculture and rural education.

India is primarily an agricultural country. Any large and widespread increase in the revenue of the country must therefore come *from* the land and *through* the villager and the small farmer. Agricultural improvement and elementary education must go hand in hand. They are mutually dependent upon one another. There must be an increase in yield per acre or land unit and at the same time a decrease in the cost per man (or labour unit). In short, the farmer must be taught how to produce larger crops per man and per acre, at a greater profit, than those which he reaps today, in order to have the means to pay for his education.

The representative of agriculture on the Provincial Council should be "Member for Agriculture and Education" and not "Member for Agriculture and Revenue." Under the Member for Agriculture and Education should come the Director of Agriculture and the Director of Public Instruction. It is only by such an arrangement that a spirit of co-operation between the two departments can be obtained which is so essential.

In its own sphere the Agricultural Department should maintain the following:—

A research institute and experiment station in each soil and climatic area.—This will be devoted mainly to laboratory work, to the scientific investigation of crops and the increase of their yields, to the discovery of the most favourable conditions for their growth, to the control of insect pests and animal epidemics and diseases, to the study of such factors as the increase in content of butter-fat in milk, the colouring matter in indigo

HIGGINBOTTOM, S.—*contd.*

and the fertilising value of artificial manures, and to the introduction and breeding of new and more profitable varieties of field crops. On the experimental farm attached tests would be made under field conditions comparable to those in the neighbourhood. All results would be published whether positive or negative, in the form of scientific or popular bulletins. The staff should not have any regular teaching work in the college, but would be required to deliver a number of popular lectures every year either in the agricultural college or out in the district in order to keep them in touch with the villager and the small farmer whose servants they really are.

Demonstration farms.—There should be a demonstration farm in every district in the hands of trained men. The staff of such a farm should include a geneal manager, and three men trained in dairying, horticulture and the production of field crops respectively. One member of the staff should always be on the farm in order to show visitors round. At least one member should always be on tour in the district. The best seed, the best manures, the best kind of seed bed, the best methods of cultivation, harvesting and marketing would be practically illustrated on such a farm. It would be the duty of the travelling demonstrator to induce individual farmers and village co-operative societies to follow the best known practice with reference to every side of their field treatmentand farm management.

Local and provincial fairs.—Such fairs should be held annually in every part of the province and they should be made so interesting that side shows unconnected with agriculture would find it unprofitable to be present. The research and experiment station should combine with the college and the demonstration farms to make this aspect of the work of the department a success. Courses of lectures should be given and prizes offered to villages, co-operative societies, boys' and girls' clubs and to individual competitors. Improved tools, seeds and implements would be on show as for sale and every inducement would be made to the farmer to send his sons to receive agricultural training at school or college.

Popular bulletins.—These should be well arranged and illustrated. They should be cheap. They should be translated into every dialect in the province and given wide distribution.

The sphere of reforms as far as the Department of Education is concerned should include :—

(i) *Rural schools.*—One teacher in every rural school who had been trained in agriculture. Attached to every rural elementary school would be a school garden divided up into plots seven feet long by three and a half feet wide. Each student should have a plot of his or her own. The trained teacher would supervise all these plots as well as the home gardens which the boys would be encouraged to grow. The boys would be formed into clubs to grow on the farms of their fathers a small unit area of some special field crop. If the boy produced a better crop under the new methods he had learnt at school, the father would not be long in adopting the new methods himself. The schools should, where possible, be situated close to the demonstration farms and the demonstrator could, where convenient, teach in the school. These proposals apply to every kind of rural school of whatever grade, primary, middle, or high.

(ii) *An agricultural college.*—There should be at least one properly equipped agricultural college with an adequate staff giving graduate work in every soil and climatic area, adjoining where possible a research institute. It would train men as follows :—

(*a*) For posts in the agricultural department :—

(1) For research work in the laboratory.
(2) For experimental work.
(3) For demonstration in farm and village.

(*b*) For posts as teachers in schools and colleges,

(*c*) To farm their own land profitably, or that of large zemindars and land holders, or to farm as tenant farmers.

HIGGINBOTTOM, S.—*contd.*

Details of staff for an agricultural college.—A minimum number of subjects each requiring a trained teacher :—

For elementary work—

A teacher in each of the following :—

1. English.
2. Mathematics and surveying.
3. Physics.
4. Chemistry.
5. Geology.
6 Botany.
7. Zoology
8. Entomology.
9. Economics.
10. The theory of education and teaching (for intending teachers).

For purely agricultural work—

A teacher in each of the following :—

11. Agricultural engineering.
12. Soils, including irrigation and drainage.
13. Field crops.
14. Horticulture.
15. Animal husbandry.
16. Dairying.
17. Economic botany.
18. Economic entomology.
19. Farm management (controlling practical work of students).
20. Rural economics (co-operation, accounts).
21. Bacteriology.
22 Meteorology.
23. Personal and social hygiene (physician).

In addition to the posts mentioned in this list there would also be required a principal, whose duties would be chiefly administrative and who would be in charge of the college office with an adequate staff of stenographers and book-keepers, a librarian and a staff of instructors and demonstrators. For the adequate training and supervision of 400 students this staff would be none too large.

Every teacher would be expected to spend at least one month of the year on tour, keeping in touch with the demonstration farms and delivering popular lectures in his subject. He would also be expected to keep himself up to date in his own course by means of research as well as by reading the latest books and bulletins.

The farm physician would be expected to give courses of lectures in rural sanitation as well as to take charge of the athletics and general physical welfare of the students.

The college farm.—Attached to every agricultural college would be a college farm, on this farm every student would get his practical work. The farm would be under the control of the teacher in farm management, it should include a model dairy and should therefore include not less than 150 acres of good land for the growing of fodder crops. In addition to this there should be 400 acres of land divided into five acre plots (see Note 5 of the curriculum). These plots should not be less than five acres. Such a plot can easily be handled by three students in those hours set aside for practical work. They should be able to live on these plots and if properly farmed they should not find it difficult to make a net profit of from Rs. 75—100 per acre per year.

The size of a college farm should certainly not be less than 750 acres. With class rooms and laboratories for each subject and sufficient to accommodate 400 students with the farm buildings, dairy *silos*, and shed for working cattle, and with bungalows for the staff a piece of ground covering 1,000 acres is none too large. Room should be allowed for growth.

HIGGINBOTTOM, S.—*contd.*

APPENDIX.

TENTATIVE FOUR YEARS' COURSE IN AGRICULTURE.

Leading to the degree of B.Sc. in agriculture.

FIRST YEAR.

First term.		Credit Hours.	*Second term.*		Credit Hours.
Animal husbandry (101)	2L.	1Lab.=3 hours.	Animal husbandry (102)	2L.	1Lab.=3 hours.
Chemistry (101)	3L.	2Lab.=5 „	Chemistry (102)	3L.	1Lab.=5 „
Botany (101)	2L.	1Lab.=3 „	Botany (102)	2L.	1Lab.=3 „
Geology (101)	1L.	1Lab.=3 „	Economics (102)	1L.	2Lab.=3 „
English (101)	2L.	2 „	English (102)	2L.	2 „
Personal hygiene (101) (physical culture).	1L.	1 hour.	Social hygiene (102) (and games).	1L.	1 hour.
TOTAL		17 hours.	TOTAL		17 hours.

SECOND YEAR.

Agronomy (201)	2L.	1Lab.=3 hours.	Agronomy (202)	2L.	1Lab.=3 hours.
Zoology (201)	2L.	1Lab.=3 „	Entomology (202)	2L.	1Lab.=3 „
Chemistry (201)	2L.	2Lab.=4 „	Chemistry (202)	2L.	2Lab.=4 „
Physics (201)	2L.	2Lab.=4 „	Physics (202)	2L.	2Lab.=4 „
Dairying (201)	2L.	1Lab.=3 „	Agronomy (212)		2Lab.=2 „
Rural sanitation (202)	1L.	1 hour.	Rural sanitation (202)	1L.	1 hour.
TOTAL		17 hours.	TOTAL		17 hours.

THIRD YEAR.

Agronomy (301)	1L.	1Lab.=2 hours.	Agronomy (302)		2Lab.=2 hours.
Horticulture (302)	2L.	1Lab.=3 „	Horticulture (302)	2L.	1Lab.=3 „
Agronomy (311)		2Lab.=2 „	Agronomy (312)		2Lab.=2 „
Economics (301)	4L.	=4 „	Economics (302)	4L.	=4 „
Agronomy (321)	3L.	1Lab.=4 „	Agronomy (322)	3L.	1Lab.=4 „
Bacteriology (301)	1L.	1Lab.=2 „	Bacteriology (302)	1L.	1Lab.=2 „
TOTAL		17 „	TOTAL		17 „

FOURTH YEAR.

Rural economics (401)	4L.	4 hours.	Rural economics (402)	4L.	4 hours.
Veterinary medicine (401)	3L.	3 „	Veterinary medicine (402)	3L.	3 „
Each Student to specialise in one of these three subjects.					
1. Horticulture (401)		10 hours.	Horticulture (402)		10 hours.
2. Animal husbandry (401)		10 „	Animal husbandry (402)		10 „
3. Agronomy (401)		10 „	Agronomy (402)		10 „
			Thesis of 5,000 words by all students.		
TOTAL		17 „	TOTAL		17 „

L.—Lecture period of one hour.
Lab.—Laboratory period of 2 hours.
(2*Lab.*).—2 Laboratory periods of 2 hours each, or 4 hours work.
Credit hour.—One hour per week for the half term.
The numbers in brackets are the numbers of the course.
The college year lasts from about June 21st to April 15th of the following year. This scheme allows for ten days holiday at *Dussehra* and two weeks at Christmas.

FIRST YEAR.

Animal husbandry.—(101) This course of study should cover the different breeds of cattle and horses of India with special reference to those of the farmer suited for draft and milk respectively.

Animal husbandry.—(102) A continuation of (101) but dealing with sheep, goats and poultry.

Chemistry.—(101) An elementary course followed by (102) which leads to qualitative analysis.

HIGGINBOTTOM, S.—*contd.*

Botany.—(101) A general course with special reference to crop production. This will lead on to agronomy (202) and botany (102) which is a continuation of (101).

Geology.—(101) A general course covering the identification of minerals. Laboratory work during the last month consists of field trips in the neighbourhood for rock study (at Allahabad and Shankargarh). Special emphasis should be placed on the relation of geology to agriculture.

Economics.—(102) The study of farm accounts and methods of keeping account books, of invoicing and of farm records. Each student must keep a complete set of books for a specified period of time.

SECOND YEAR.

Agronomy.—(201) The study of soil formation, its physical and chemical properties, its tillage, treatment, fertilisation, irrigation, aeration and drainage. Laboratory experiments to show all the chief factors which govern crop production.

Agronomy.—(202) The study of field crops, their characteristics, their improvement and selection.

Zoology.—(201) The study of general zoology, including the dissection of at least one animal.

Entomology.—(202) The study of insects especially harmful or beneficial to farmers. Their remedy or control.

Chemistry.—(201) The qualitative analysis of foods, soils and fertilizers.

Chemistry.—(202) Quantitative analysis.

Physics.—(201) General physics with a special reference to dynamics followed by (202) which is a continuation of same and reference especially should be made to magnetism and the theory of electricity and its uses.

Dairying.—(201) The different types of diary cattle with practical work in caring for them. The production and marketing of milk. Dairy products and their successful manufacture.

Agronomy.—(212) The principles of mechanical drawing, map making and blue printing.

THIRD YEAR.

Agronomy.—(301) Use of theodolite, practice in levelling, contour work, road construction, drainage, the mechanics of irrigation and the laying out of a farm.

Agronomy.—(302) Building plans, the construction of *silos* and dairy barns, with practice in original designing.

Horticulture.—(301) A preliminary study of horticulture with reference to fruit trees, their propagation and care, landscape gardening, followed by a course in vegetables (302). The preservation of vegetables, canning and bottling.

Economics.—(301), (302) Principles of political economy. Co-operation.

Agronomy.—(311) Forge practice. Work in bending and welding iron, the making of chisels, punches, and the hardening of steels of varied carbon content.

Agronomy.—(312) Carpentry-joining, planing, glueing, dovetailing and pattern making.

Agronomy.—(322) Elementary principles of farm mechanics including the study of simpler farm machinery.

Agronomy.—(322) Advanced farm mechanics, petrol, oil, crude oil, steam and gas engines, electric motors, magnetos and dynamos.

Bacteriology.—(301) A general study of elementary bacteriology, to prepare students for the more advanced work demanded by the fourth year special subject. This might be dairying, or soil work according to the students' choice of special subject.

FOURTH YEAR.

Rural economics.—(401) The study of Indian agricultural conditions with reference to the economic effect of these conditions on the cultivator. Agricultural problems of India in relation to their legal, social and political aspects. Methods in demonstration work, whether on farms, demonstration tours or at fairs and shows.

Rural economics.—(402) A continuation of (401). The study of the principles of co-operation and their application to the villager, the small farmer and the zamindar. The

HIGGINBOTTOM, S.—*contd.*

need for village co-operative credit and banking in the purchase of tools, fertilizers and machinery, in the building of wells and *silos* and in the trenching and sanitary disposal of all village refuse and manure.

Veterinary medicine.—(401) The study of the anatomy of farm animals, their disease, and the symptoms and remedies of those diseases. The control of epidemics. This course is intended not to supplant the veterinary surgeon, but rather to enable the farmer to know when to call him in.

Veterinary medicine.—(402) Continuation of (401).

Note 1.—All the above subjects will be compulsory for fourth year men. Besides these the student must choose one of three courses in which to specialise and for which there will be a credit allowance of ten hours. Each course will be under the supervision of the professor of that department and will include lecture, laboratory, practical and research work. The whole of the work in any special subject will be advanced work, designed to fit the student to obtain his living by following up the branch which he has chosen for specialisation.

2.—All fourth year men will be required to write a thesis on some phase of the advanced course in which they have specialised. This thesis shall contain not less than five thousand words. Lectures and laboratory work should be given on four days in the week and practical work and field trips on the other two days throughout the year.

3.—No regularly scheduled classes will be given in English after the first year, but the different departments shall call regularly for written work which shall be graded on its merits as to the subject matter as well as on the standard of its English. There will be a compulsory literary society. Every student shall write essays and orations for this society and shall also have practice in the arts of composition, debate and public speech.

4.—According to the season, visits should be arranged to special districts in order to study at first hand the growing of sugar, rice, cotton, wheat, jute, etc., respectively, as well as to inspect local fairs and other agricultural colleges.

5.—Practical work on the farm of every kind will be compulsory for all first year students. Part of the college farm should be set aside and divided into plots of five acres each. A fourth year student should be directly responsible for each plot. He should have attached to it one second and one third year student as assistants. These plots should be run under economic conditions as near to those of an Indian village as possible. The fourth year student will keep all the profit he can make from his plot. He will have to pay for the land, for the use of oxen, water, manure, machinery and anything else which he hires from the farm. In this way every student will have some individual responsibility directly thrust upon him. He will be encouraged and enabled to obtain advice and information from the professors whenever he needs it. There is no other way in which a student can reap so much valuable experience of such a valuable nature.

6.—There should be a physican attached to the college who would deliver lectures on personal hygiene, rural sanitation, including the prevention and control of plague, malaria, small pox, and other diseases to which rural India is an easy prey to-day. He would be in charge of the physical well-being of the college, its athletics, games and physical culture.

Rural education and agricultural development.

The line of advance which I here put forward cannot, at a time like this when change is the order of the day, be entirely immune from criticism. Many of the conclusions drawn are the direct result of my own experience in Gwalior and in Allahabad. Others are the product of a mind which is still open to criticism and conviction and which certainly lays no claim to infallibility. In laying the emphasis where I do, I have no wish to ignore the fact that the choicest leadership in the history of the world is found among men who in their youth have been well grounded in literature, philosophy and the classics. In other words the much maligned ' classical education ' with its emphasis upon Latin, Greek and ancient history does stretch the students' imagination, broaden his mind and give wings to his thought where a purely technical education tends to narrow his outlook and to starve his humanity.

2. Cursed with illiteracy and stricken with poverty and debt any progress in rural India at present is well nigh impossible. It is not unusual to hear educated people engaged in literary pursuits inveighing against science and the materialism of the modern world. But history shows that no great civilisation or culture has yet been produced which had not at its base some degree of that economic security which India now lacks. Greece had her slaves, Rome her yeoman farmers, Italy and ancient India their patron princes. The condition of the English agricultural labourer of the middle ages was in many ways parallel to that of the Indian villager to-day, yet within less than a century a condition of economic security was established amongst the lowest classes in the social scale which has never since been excelled. No purely rural population has ever produced that wealth of art, of architecture, drama, poetry, song and dance which England has inherited from " the spacious days of Queen Elizabeth." All that is claimed for the scheme set down below is that it will give to the Indian villager his chance and to India the opportunity of producing a leadership of " philosopher statesmen " rather than the lawyer politician of to-day. I do not claim that mine is the only road of advance. There is no wholesale panacea for the present troubles of India. Industrial development, educational reform and political change all have their place to-day in the general programme.

HIGGINBOTTOM, S.—*contd.*

But I do say that, at this moment, the road which I am advocating is the most simple, that it demands a smaller outlay of capital than any other and that the reward is immediate and out of all proportion to the initial sacrifice. Neither the prevention of erosion, the economic disposal of organic waste, the adoption of co-operation nor the building of *silos* for fodder storage demand much outlay of capital but their return in cash profit within a few years would be incalculable.

3. It may be objected that the road of reform in education which I wish to construct is merely the road to a "Dollar Education." If it will give the villager his chance, if it will free him from debt and the chains of circumstance with which he is now fettered, if it will put literacy within his grasp, is a "Dollar Education" not worth while?

4. Education, as at present conceived in this country, has failed to touch the Indian villager. He regards it with suspicion and dislike. No one, who has studied the history of Indian art, craftsmanship and philosophy, will be prepared to condemn him as hopeless. The present system has failed to meet the needs of the Indian people. It is a system patterned upon Oxford and Cambridge, but it has adopted the form, the degree, the lecture, and the examination, and has missed the spirit which lies behind these great institutions. Too often the Indian professor or teacher is little more than a drudge. If he returns to the West in middle age he finds he has dropped into the lower ranks of his profession. If the present system of elementary education succeeds, the cultivator loses his boy and the village its most enterprising citizen. The way out is not to be won by throwing over any of the existing educational machinery in order to make a fresh start from the bottom, nor is it to be reached by working from the top down in order to produce a literacy for election purposes. True progress must come from both directions, but before it comes we have got to be much clearer as to the goal towards which we are striving than we are at present. We have got to reach the man at the bottom and create in him a desire to rise above the conditions which hold him in bondage and to enable him and his children to realise a higher ideal of life and a nobler conception of citizenship. Neither the scientist nor the educationalist can any longer afford to let their eyes wander in search of the letters that may one day be affixed to their names nor to their professional position and *kudos*. The ryot to-day is robbed of the fair reward of his toil and it is useless to talk of universal education until he is able to pay for it, or to draw up schemes of compulsory elementary teaching until the village is in a position to support its own school and teaching staff. Those responsible for the guiding of the industrial and agricultural policy of this country must shape their programme for the future to this end and not merely towards India's commercial supremacy in foreign markets.

How then is the outlook of the villager to be changed and what are the immediate steps which may be taken to achieve this end? *We must go to him where he is.* We must find out how scientific knowledge can best be brought under his notice and how he can reach a position from which he can take advantage of it. He is conservative, and rightly so, he has been stung so often in the past. Once prove to him that co-operation and improved agricultural method can solve his problems and he will quickly come to believe that some kind of education is good for his son. To this end the departments of agriculture and of education must work in the closest of co-operation. They are mutually dependent upon one another. Practical suggestions for such co-operation I have made elsewhere. Here I wish to deal with the steps which should be taken immediately in view of the machinery which now exists.

On the part of the Agricultural Department the present agricultural colleges should be greatly reinforced, and the number of demonstration farms increased. New demonstration farms should be established in every district as fast as students can be trained to manage them. From existing demonstration farms as many tours should be arranged into the districts as the staff of the farm permits. Far more bulletins should be sent out from the existing research institutes of a popular, rather than of an highly scientific nature. These should be translated into the different dialects and made simple enough for distribution in the villages. Agricultural fairs and village shows are profitable investments rather than unnecessary wartime expenditure.

Similarly in the Education Department every rural school, primary, elementary and high, should have a teacher trained in horticulture and a garden attached to the school.

Already every rural teacher in the Allahabad district board schools has either attended a ten days or a one year course at the Jumna Mission Farm, and every rural primary school has its own school garden. Most of these school gardens are now fenced in. They should be divided into small plots so that each student is made responsible for his own plot. A garden which is common to the whole school will not work, for this element of responsibility is lacking. There is no reason why every rural school in India should not start this system immediately.

For a substantial move forward there is little doubt that we shall have to wait until the war is over. It is impossible to increase the number of research institutes or of agricultural colleges without a great increase in trained men of a kind which it is impossible to obtain to-day, but meanwhile the greater the advance of the co-operative movement in India and the more we make use of existing schools and institutions the sooner shall we be ready for them when they are available.

SARKAR, PROKASH CHANDRA.

I make the following suggestions :—

(*a*) That travelling agricultural lectureships after the lines adopted in England by the universities of London, Leeds, Durham, Glasgow, Aberdeen, Cambridge, Oxford and America by the departments of agriculture and education, may be established in this country for the real weal, benefit and education of the vast body of illiterate peasantry of the land and that lectures be delivered in agricultural centres in the languages of the land.

(*b*) That the agricultural departments of the country be remodelled and reconstituted after the European and American models and be placed under the education department so as to be of real use and utility to the actual peasants and farmers of the land, and that the Calcutta University Commission may be pleased to advise Government accordingly.

(*c*) That dairy farming, poultry farming, stock raising, and allied subjects and arts, as they have in Europe and America, may be scientifically (both theoretically and practically) taught in the country to open various avenues for the future livelihood of the masses of India.

Oral Evidence.

MILLIGAN, S.

14th February 1918.

Control of agricultural farms.—The existing agricultural farms should remain under the control of the Department of Agriculture. It would not be wise to transfer them to the Department of Education as they have been established primarily for purposes of agricultural research. The work of the Department of Agriculture could not be conducted without them. It would not also be advisable to affiliate the farms to the University. No advantages would be gained thereby and the witness foresaw great disadvantages.

2. *Practical training.*—Theory cannot be divorced from practice in agriculture. There is no difficulty in arranging for practical training of students on the farms. Facilities have been offered by Government at the Dacca farm, but have not been availed of. To be of any value, the training must be continued for some time. Short courses are of little use for non-agriculturists. For example, if a boy comes for a short course on a farm after the crops have been sown, he will learn nothing about the preparation of the land and *vice versâ*. If the training is to be of any lasting benefit, students should reside on the farm and be constantly employed on farm work.

MILLIGAN, S.—*contd.*

3. *Opportunities of employment for graduates in agriculture.*

(*a*) *Farming.*—Very few people have made their fortunes as farmers. This is true of most countries and especially of Bengal. Owing to the deltaic conditions of Bengal, small holdings are the rule. Under such circumstances it would not be possible for a college trained boy to compete successfully with the ryots. There is some possibility of making money out of tea and such industries. The educated classes of Bengal do not take to farming as a profession. The witness only knew of a few instances and unfortunately they were failures.

There would be some scope in dairy farming if good milking cows were obtainable. But money cannot be made out of cattle-breeding, at least in the initial stages.

(*b*) *Land agents.*—A training in scientific agriculture was not necessary in the case of land agents: on the other hand, training in civil engineering was very badly needed. There was an enormous amount of work to be done in irrigation and drainage works on private estates.

(*c*) *Agricultural department.*—It is not a good speculation for a boy to undertake the study of agriculture in the hope of obtaining a post in the Department of Agriculture. The present scheme of recruitment includes one agricultural officer—a man of the type turned out by the agricultural college—for each district in Bengal. In other words, there would be little more than one vacancy a year in Bengal. If the personnel of the department is increased to an agricultural officer in each sub-division—the number of such vacancies might possibly be increased to four a year. In addition there are a few farm overseers who receive Rs. 75 to Rs. 200 a month. (A superintendent of agriculture in charge of a division receives Rs. 200 to Rs. 400 a month.)

University training in agriculture is therefore at present in the nature of a blind alley as the prospects of profitable employment in agriculture are poor and the training is unsuitable for anything else.

4. *Demonstration farms and agricultural colleges.*—The witness hoped to start a small demonstration farm in each district, some twenty in all. Their functions will be to test the local application of results and the solution of local problems. Each farm will be a little smaller than the one seen by the Commission at Rajshahi. Training in "scientific" agriculture is given at the Sabour College which belongs jointly to the provinces of North-East India. The farm at Sibpur had not been a failure, as some of the best men in the local Department of Agriculture were trained there. The agricultural and residential conditions of Sibpur, however, are not as good as say those at Dacca. Calcutta is a commercial and industrial rather than an agricultural centre. The witness understood that the Poona Conference only advised the constitution of an agricultural college when the conditions of any particular province demanded it. The Department of Agriculture in Bengal could not spare men for teaching in the college without seriously interfering with its own work.

5. *Primary school education.*—Money would be better spent on primary schools where a good elementary education could be given to agriculturists than on specialised training in agriculture in schools or colleges. It is more essential for the agricultural development of the country that the peasants should be able to read and write than that a few graduates should be turned out possessing an agricultural degree. The witness did not approve the proposal that agriculture be included as an optional subject in the Matriculation. On the other hand, he saw some value in a few lessons in agriculture provided that they could be made sufficiently interesting. Agricultural readers might also serve a useful purpose if they were compiled by such men as Dr. Coleman, Director of Agriculture, Mysore, who was keenly interested in the subject and had sufficient experience of both educational methods and agriculture. He did not agree with the Pusa and Simla conferences that it was possible to provide the teacher who could both carry on the work of a teacher and give instruction in agriculture. Nobody could speak with authority on agriculture unless he had been actively engaged in agriculture for some time. The witness, however, would welcome the employment as teachers in rural schools of men who had some idea of the meaning of agricultural development. For this reason it would be well if during their

MILLIGAN, S.—*contd.*

time of training future teachers in rural areas had some intimate connection with attempts to improve the agriculture of the country. For this reason it would be an advantage that the place of training should be close to a demonstration farm.

6. *Practical education.*—The witness was strongly of the opinion that for many boys the school teaching immediately before and after the matriculation stage should be practical. There was scope for boys who had received a sound practical training in engineering, and a general knowledge of agriculture rather than scientific details. A good knowledge of colloquial English was also necessary. A boy so trained would be worth a comparatively good salary as an estate manager. The witness did not contemplate a much greater use of machinery in the near future although hired labour was inefficient. Training in mechanical engineering, however, would be beneficient to the individual in particular and to agriculture in general. In reply to a question as to the possibilities of the co-operative movement supplying machinery the witness stated that the co-operative movement had many difficulties to surmount before that would be possible.

7. *The Loni school.*—The witness thought that from an agricultural stand-point the agricultural school at Loni had been a failure. This was not essentially due to the fact that there was no room for such a school, but because the system of cultivation at Loni had not yet been adapted to the peculiarities of the soil of the place. The Poona College had, he considered, been successful. A good type of graduate had been trained there, some of whom had gone back to the land. In the Bombay Presidency, however, the size of the holding is much larger than that in Bengal, an essential difference when it comes to a consideration of the educational requirements of the two provinces.

II. COMMERCIAL AND INDUSTRIAL EDUCATION.

General Memoranda.

GAMLEN, R. L.

I am writing in answer to a request to submit a short note with respect to what has been done at Hyderabad, what I would like to do, and my ideas in regard to technical training.

Some workshops were originally built at Hyderabad when the Mint was founded in order to deal with the repairs to the mint machinery. A staff of men was also engaged to look after the work. This answered the purpose when coining operations were going on; but when there was no necessity for coining the whole plant and staff were idle.

When I took charge of the Mint nine years ago, coining had been stopped for nearly a year, and it looked as though but little was likely to be done in the near future. I therefore requested sanction from Government to allow me to expand the activities of the workshop by undertaking work for the other State departments in order to utilise the men and plant. Shortly after, when things were getting into a working condition, I conceived the idea of making use of the workshop for training boys and I was anxious to start a school in connection with it. The idea, however, was not carried through. I then had hopes of co-ordinating various other technical efforts that were being made in the area, but these came to nothing. I also tried sending a class of more highly educated boys to the Science Department of the Nizam's College, but as it was some distance away, the attendance proved most unsatisfactory, and I gave that up. I have now started a class for teaching elementary science to the moderately educated boys. Instruction is being given by the men who are in charge of the various sections of the Electricity Department. At present there are 30 students and the attendance is regular. Tuition is given for only one hour daily. The engineers have not time to give more. They arrange, however, for the students to do an hour's home work and, by paying visits, efforts are being made to utilise whatever small plant of various kinds there may be in the district for adding to their general knowledge of engineering principles. This, of course, is merely tentative and intended only to pave the way, if successful, to more systematised teaching. From these students it is hoped to select a few men who are likely to become engineers. I had hoped that all the other boys who came to work here might have been able to get primary education outside, but this has not proved feasible. I have therefore arranged to give tuition in the Mint. All the boys are to be taught to be literate in vernacular and elementary arithmetic. Wherever possible, Urdu is used as being the most generally useful language in the State. Telugu, however, is being taught where boys are already half trained in that language. A class for boys literate in Urdu or Telugu has been formed for teaching English, arithmetic, mensuration and decimals, and they will be taught later to understand simple drawing. Tuition for two hours a day is being given to each boy, the rest of the time is spent in handicraft. The teachers are taken from the clerical staff, and they are given a small allowance for the extra work. We have at present some 150 boys who are doing apprentice work and who attend this primary school.

As regards my opinion on the subject of technical education, I consider that for the handicraftsman there is no better system than the very ancient one of apprenticeship, *i.e.*, learning at the hands of one who is carrying on the business. For this reason I am entirely against the principle of attempting to teach handicrafts as an adjunct to a technical school. I think that handicraft should be taught in commercial undertakings, whether under the control of Government or of private individuals, and that sufficient time should be allowed by the firm, say two hours daily, to the apprentice for acquiring so much literary education as may be essential to his calling. It would, of course, be of the greatest importance that any firms undertaking to teach boys should select craftsmen of the highest obtainable skill and that, if this proved at first to be commercially unprofitable an allowance might be given to balance the loss. The high quality of the work which will be turned out after a little time would more than make up for the extra

GAMLEN, R. L.—*contd.*

wages paid. Considering then the fine handicraftsman, the whole of whose powers are devoted to the carrying out with his own hands certain specified work, practically the limit of what is required, other than actual skill in handicrafts, is ability to read instructions that may be written and to understand sketches from which his work has to be carried out. The first and foremost thing, however, is that he should be extremely capable in the use of his hands and the appliances of his trade. I do not think that he should only be given sufficient literary education to enable him to read and write his own vernacular or the most useful vernacular in the district, to understand arithmetic and mensuration including fractions and decimals, and enough English to be able to understand the directions that may be sent with drawings. I do not think that the average boy should be pressed any further, and I think that two hours a day is all that should be allowed for schooling, the rest of the working day being devoted to the acquirement of the special handicraft for which he is qualifying. Among these boys, no doubt, a few will show themselves particularly clever and these could later on add to their schooling some information on helpful subjects, such as strength of materials, application of mechanics and the action of steam according to whatever branch they wish to specialise in. This would enable them to become useful foremen. A few, perhaps, would prove themselves capable of even further development. This would bring them into another class of technical men, that is to say, while not being particular experts in the handicraft of any one branch, they will have a good wide working knowledge of general engineering work with a specialised technical knowledge concerning one subject; in other words, they will form a class of supervising engineers of all branches and technical officers generally. The treatment of such students, of course, must be very different from that which can be given to subordinates. They should be given a sound general education until they are about fourteen years of age, and then they should be sent into the workshops where special provision should be made for training them. About three hours daily should be spent in teaching them general science, mathematics and drawing, and the rest of the day should be spent in acquiring a working knowledge of the handicrafts in the various departments. With this superior preliminary education, they should be able to assimilate knowledge much more quickly than the less educated boys. If they are of any use they would probably begin to indicate early some tendency in a particular direction, and when at the age of about nineteen or twenty they have gone through the various branches, it would probably be found that they could easily revert to the department for which they showed special aptitude. Again, if they proved themselves to be of good quality, their services would be sufficiently useful to the Department which would be glad to retain them as assistants.

I feel sure that the training as assistant with a parent firm where the youth is undertaking a responsible work under the guidance of experienced chiefs is of essential importance in building up the sense of responsibility and reliability and of initiative which is unfortunately so very often lacking in the college trained engineers, and I may say specially among Indians.

In these remarks, I have only considered the best species; the unfit would have to drop out by the way and fall into subordinate niches which are to be found all through the engineering world.

In order to accomplish my ideas, the ordinary technical school is of but very little use. It usually has a workshop attached to it wherein boys become second-rate amateurs as craftsmen and are without any useful training as engineers. I think that probably with the exception of one or two cases in India, the works are not of nearly sufficient amplitude to serve the purposes that I have indicated. If private enterprise by itself cannot see its way to expand sufficiently to justify the engagement of adequate skilled masters to serve as efficient instructors, I think that the State should enter into an agreement with some firms by giving them an educational allowance or otherwise, so as to enable them to expand their operations and to engage really suitable staffs for the purpose.

For example, there are many engineering firms of various sizes in India who have foundries, but I think that very few of them are equipped with a chemist or with suitable testing machinery for dealing with the materials that they use. With the Government grant, they might see their way to remedy these defects and so enable the students to

GAMLEN, R. L.—*cont'd.*—Marwari Community, Calcutta. On behalf of the,

learn the essential parts of the profession. I would not suggest that these departments act as laboratories, and that the apprentices should learn in them, as ordinary students do, but that the apprentices should be working parts of the undertakings and carry out the daily routine for the firm. If no suitable arrangement could be made with a firm, then the old ideas should be completely departed from and the State itself should enter into commercial competition with private enterprise and construct a really comprehensive system of workshops of as diverse kinds as possible, in the first instance of course for supplying articles needed for the State and then also for general commercial consumption, and equip them with talent which could make them model factories. At the same time their primary object would be the making of engineers, including in this term all grades from the lowliest craftsman to the most highly skilled technician. I do not believe that a highly skilled specialist is made by giving facilities in a technical college; the high skill comes later and is due to the interest that the individual has in his own special work which forces him to search round to acquire the final polish. Special foreign scholarships given to fairly mature youths would enable the suitable ones to acquire this final polish. Unfortunately, at present, the industries in India do not provide any such facilities.

The expansion of our present undertaking, to the extent indicated, is what I would wish for here.

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It is generally believed, and on good grounds, that there is a need for a sound system of commercial education, both advanced and elementary. The need for such education at an early stage is keenly felt by the Marwari community on account of its traditions of early initiation into business. The community believes from its own experience that an early saturation of its youth in business methods and ideas is eminently desirable. Once provision is made for a matriculation course in commerce we expect that a sufficient number of students will take it up, and after the experimental stage is over, a large number of students may be expected to adopt that course. The Shri Vishuddhanand Saraswati Vidyalaya, the premier Marwari educational institution in Calcutta, has from time to time announced its aim to impart commercial education, and we hope that the University will help it to realise that aim by providing a matriculation course as well as higher courses in commerce. Students usually desire the recognition of their studies by university certificates, diplomas and degrees, and to start with an experiment should be made in the matriculation stage. Besides, in the absence of a real beginning of practical commercial training at school, many students are made to give up their studies, for their guardians do not consider the present literary curriculum as suitable to their needs.

If, however, there be a matriculation course in commerce it is expected that it will attract more Marwari students and that they will study for a longer period than at present. It is likely that the existing Marwari schools will take up the course and more such schools may be opened. The best way to introduce education in general among commercial communities would be through a course of commercial education.

The matriculation course in commerce may be arranged to cover the following subjects:—

(*a*) English (including précis writing and commercial correspondence. Marwari commercial men are naturally in great need of these arts, but their present arrangements are very defective indeed).

(*b*) Vernacular and a classical language. (At least a rudimentary knowledge of Sanskrit is necessary to make the education of a Hindu complete. Without it the students would find much inconvenience in their daily life: and a good knowledge of Hindi, which is essential, is difficult to acquire without an elementary knowledge of Sanskrit. Corresponding provision should be made for non-Hindus.)

(*c*) Book-keeping. (This subject is, of course, the foundation of all commercial training; and the Marwari boys, as has been shown by experience, have an aptitude for it fairly early in life.)

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(*d*) Mathematics. (A training in business mathematics should be given.)
(*e*) History and geography, both ordinary and commercial. (History may be very elementary and confined to the history of India and a brief survey of the history of England. Commercial geography should, for obvious reasons. occupy an important place : moreover, it is an excellent introduction to the science of economics.)

As regards teachers, we do not think there will be much difficulty in finding them so far as the above course is concerned. We understand that easy text-books too can be had without any difficulty.

The Honourable Justice Sir ASUTOSH CHAUDHURI.
Sir KAILAS C. BOSE, Rai Bahadur
J. C. COYAJEE.
DEBI PRASAD KHAITAN.
SETH RAGHUNATH PRASAD PODDAR.
TARACHAND GHANSHYAMDASS.
JAINARAIN RAMCHUNDER.
GANPUTRAI KHEMKA.
SADASOOKH GAMBIRCHAND.
HARKISSEN BHATTAR.
GULABRAY PODDAR.

A matriculation course in commerce will form the best stepping stone for those entering the portals of a college of commerce. At the same time, the school will have a value independent of any college, because a student of such a school, even if he does not prosecute his studies further, will enter commercial life with a better training than any which the present matriculation course can give him.

If the above suggestion be found difficult to adopt in the above form at present, we propose that optional subjects may be so arranged as to include the above requirements.

Rai Bahadur HARIRAM GOENKA.
Rai Bahadur SHEWPERSHAD JHOONJHOONWALLA.
KALI PRASAD KAITAN.
SHEOBUX MAL.
MUTTRUMULL CHOWDHURY.
KADARNATH RAJGARHIA.
RAM DEV CHOKHANY.
JUGALKISHORE SURAJMULL.
NATHURAM RAMKISSEN.
SRIGOPAL BILASRAY.
LALCHAND SEWCURN.
JAGANNATH.
BILASIRAM THAKURSIDAS.
Kumar HEERALAL BAGLA.
SEWARAM KALURAM.
BALDEODASS JUGALKISHORE.
BANSIDHUR SEWPRASAD.
SOBHARAM SEWDUTTRAY.
JAIDAYAL MADANGOPAL.

Marwari Community, Calcutta. On behalf of the,—*contd.*—PETAVEL, CAPTAIN J. W.

SEWRAMDAS RAMNIRANJANDAS.
RAMCHARANDAS DEBIDUTT.
RAMPRATAP RIDHCHURN.
HEERANAND ANANDRAM.
TRIBHUBAN HEERACHUND.
NIRMAL CH. CHUNDER.

PETAVEL, CAPTAIN J. W.

My suggestion for the solution of the problems of practical education and of middle class unemployment is for an extended application of the principle of which the French and Swiss *fermes écoles* give some example; in those schools students are organised to produce the main necessaries of life on a co-operative plan, and so approach to being self-supporting. Broadly speaking, with the help of modern methods, we can produce most things easily enough, the difficulty in commerce being the disposal of produce. Young workers producing articles to use and consume themselves, have the easy part of the work altogether avoiding the difficult.

I do not propose to put anything speculative before the Commission, so shall come soon to a description of what I am actually engaged in doing now, and of what I wish to do as the very next step; but I shall first just outline briefly what we are looking to for the future, referring to the various publications of the Educational Colonies Association for details. They can be had in England from the Honorary Secretary, J. B. Pennington, Esq., I.C.S., retired, 3, Victoria Street, Westminster, S. W. and in India from myself.

By means then of what in its *economic* working would be a co-operative organisation we look to establishing an educational system that would make young men practically sure of a living. Briefly the plan is to give boys at school and young men at college the widest possible facilities to learn to take a part suitable to young men of education in the work of producing the principal necessaries of life with the help of modern methods. We should hope to see this practical training made compulsory some day for all science degrees. In that way the universities could help enormously the industrial development of the country.

I contemplate as soon as possible "industrial colonies" equipped in the most modern style so that an extensive use would be made of machinery to which the boys and young men would go in some sort of rotation to learn to work practically, the rougher work being done by working class lads who would come to the farms for some schooling, the establishments thus serving two highly useful purposes.

Farming and all the industries connected with agriculture, including the repair and even, when possible, the manufacturing of the machinery, should be carried on at these establishments. The Indian middle-class young men are not averse to working a machine, and their prejudices could be overcome sufficiently for them to help in at least some kinds of field work during the time when labour is urgently needed on the farms and highly paid.

Basing ourselves on Swiss experience, there is no doubt whatever that, with good organisation on a large scale, not only could those industrial educational establishments soon be self-supporting, but the young men would be able, even whilst pursuing their studies, to make useful contributions in kind to their homes. The fact that is very significant in this connection is that the Swiss have made tramps and vagrants entirely self-supporting by organising them to produce the necessaries of life in this way; so we should certainly be able to succeed with good boys.

Now as there are in India millions of poor lads wanting education, once a start was made there is every reason to expect that organisations of that kind would extend rapidly; and then they would soon afford, besides, opportunities for training for middle class young men, a very great amount of employment for them, and let it be noted, not only for those who could be employed in managing industrial work, but also for numbers whose education had been purely literary, who would be needed to teach the working class lads.

PETAVEL, CAPTAIN J. W.—*contd.*

I will not dwell on this, however, but will just mention in passing that in the opinion of many people the solution of India's problem of popular education is to be looked for in establishments of this kind. Boys working in them, helped by modern methods would earn by a few hours' work the equivalent of what they are expected to contribute to their homes and have time to devote to education. It would be enough to have an establishment in every district that boys would go to when old enough, doing their ordinary schooling and some small industrial work in village schools.

Though I shall come as soon as possible to a description of what I am actually doing, I think it worth while to say something about the economics of self-supporting technical education, because once it is proved possible the problems of practical education and middle class employment will be solved.

Hitherto we have looked upon combined earning and training as impossible, because a person must be quite differently employed to earn from what he professes to learn. To earn he must keep to some kind of work until he is proficient, and then continue it. To learn, on the other hand, when he has obtained some degree of proficiency in one kind of work, he must acquire proficiency in another.

But industrial progress has now rendered the combination of the two possible. In that lies a great hope for the Indian middle classes. In the first place it has made labour enormously productive when doing things on a large scale, so that the young men, by working a few hours a day commercially, would be able to earn their maintenance and devote another part of the day to working instructionally. Then, by introducing mechanical process into agriculture, it has rendered possible an industrial organisation in which the young men could produce the necessaries of life for themselves, which would enable them to have the benefit of this productive power, which a commercial organisation cannot give them.

These organisations could contain, besides the students, a considerable number of *working men hired under ordinary conditions*, who would produce much more than they would consume. In commercial phraseology the organisation would make a profit on their labour. All the young men would be practically partners in an organisation of that kind, hired labour therefore could be very effectively supervised and *the economic strength of such an organisation on the co-operative principle could therefore be increased practically to any extent, by increasing the proportions of workers hired at a fixed rate of remuneration.* This is an important point. When we bear this in mind we see the answer to many questions that arise, including the great question of capitalising these organisations. They would be able to pay interest on the money spent on buying machinery and other equipment which is all that capitalising them would mean.

We should not of course contemplate these organisations producing more than the most ordinary necessaries of life, so they would have to sell some produce to have the money to purchase many things they cannot produce and to pay the cash portions of salaries of permanent workers. Broadly speaking, however, they would produce those articles of which we make the greatest use.

Once more I shall come as quickly as possible to describing the stepping stones, I am actually engaged in placing, to help forward towards the realisation of these possibilities industrial progress has opened up; but as they are possibilities of such very bright hope for India and for every country, I shall first give just one practical illustration showing the advantage of producing for use, instead of for sale, and showing clearly what we can look forward to at once if we place well chosen stepping stones

The ordinary industry, as we know too well, loses in friction the immense power industrial progress has given to labour, so that the workers scarcely benefit by it; but there is one example from ordinary commerce that gives us an idea of what we might expect of educational establishments on the principle of which the French and Swiss *fermes écoles* give some little illustration. We have seen industries, having large orders to deal with, paying their workers at double, and in some instances more than double, ordinary rates for an output exceeding the normal and ordinary. Those rates show us what remuneration industries can give, and still be working at a profit with the help of modern methods.

But the reason for their not being able to pay those high rates generally is that an organisation producing for commerce has much more than its working expenses to pay; it has to spend money on opening up markets; it is practically certain to have some

PETAVEL, CAPTAIN J. W.—*contd.*

unfortunate transaction involving loss which must be paid for out of the profitable ones ; it has risks to incur. If conditions are particularly unfavourable it will probably be burdened with watered stock. In any case it will have very big salaries to pay to managers skilled in the arts of industrial warfare. But the organisation producing for its own workers has none of these expenses and risks and the higher rate, therefore, represents more accurately that at which it should be able to remunerate its workers. This does not show all the advantages of the industry working co-operatively over the commercial industry, but it does sufficiently perhaps for our purpose.

For all those reasons, and allowing further that a man in half a day's work can do considerably more than half of what he does in a whole day, we can see at once how, in a large organisation, the trained young men might earn quite a decent maintenance with half a day's work, and devote the other half to some further training. We see also how these organisations might develope and do most valuable work at least in training working class lads as skilled artisans giving us self-supporting technical schools if not solving the whole problem of popular education ; and giving abundant employment for men of education.

In a technical school of that kind young men would perhaps be longer going through a given course of training, but that would not matter if they were earning all the time, and they would have far more thorough and useful experience than they could ever have in any technical schools such as we have now, which are almost a pronounced failure. They would be turned gradually from school boys into practical workers, and then young supervisors of the junior lads, so would have a training such as is not to be had under present conditions. We could contemplate, as a further step, young men, when they were trained, taking up some industrial work on their own account, but directly connected with the organisation so that they could wean themselves as it were gradually from it, having the advantages of the advice and assistance of its experts in their first independent undertakings.

That is enough to say about the ultimate object we have in view, except just to add that we shall be able to go a very substantial way towards realising it if only we can manage to do successfully with working class lads what the Swiss have done with tramps and vagrants, and I refer to some prints enclosed for opinions of eminent economists and educationalists on these suggestions from the economic point of view.

I will now describe what I am doing towards establishing practical education and placing stepping stones to lead towards the realisation of what I have described above.

By the generosity of the Maharajah of Kasimbazar I have been able to open a school in which we are carrying out the idea of combined scholastic and industrial work. The Education Department has seen the importance of what we are doing and has offered financial assistance. His Excellency the Governor and Lady Ronaldshay have paid us the compliment of a visit to the school. Sir Asutosh Mookerjee is giving every encouragment.

As I have mentioned, economic success can be attained only when doing things on a large scale, so we have not yet made the industrial work pay to a very great extent, but some boys have been able already to earn rather more than their school fee by their work in the carpentry workshops.

The great thing, however, is to open up prospects for boys trained in the school, therefore, besides the school I am establishing an organisation to which I have given the name of Indian Polytechnic Association. Several very prominent gentlemen have helped me including notably Sir Dorab Tata, Sir Dinshaw Wacha, Rajah Reshee Case Law, Sir Rajendra Nath Mookerjee, Sir Kailas C. Bose, Mr. Banerjee (the grandson of Bankim Babu), Mr. Gokulchand Boral and many leading merchants among whom Messrs. Jettaibhai Jaichand, Haridas Goculdas and Mr. Khe Za Rhee may be mentioned.

The Indian Polytechnic Association is intended to be a general agency that will canvas for orders of all kinds, specially among people who wish to help the objects we are working for, and to get work to be executed as far as possible in the school workshops.

We cannot look forward to much success until we have an organisation of that kind in working order, as production for the use of the young producers themselves will not be possible at first.

I append a statement of the various objects of the Association. The most important work I am hoping now to do with its help is the establishment of what I call an industrial colony, to give the young men a practical example of what industrial training will lead

PETAVEL, CAPTAIN J. W.—*contd.*

them to. We have prejudices against industrial work to overcome, and young men will certainly not be induced, merely by being told about hopeful prospects, to overcome their prejudices against it. They must be encouraged by concrete examples.

The question is how money is to be obtained for a start? There are numbers of Indian middle class young men who are quite willing to take up an industrial career and who have guardians willing to give them the capital for a start but who are deterred by the risks inseparable from ordinary industrial undertakings. They know that the chances are only too great of their little capital being lost.

An urgent need therefore—none hardly could be more urgent—is to choose a good locality combining as many advantages as possible for such young men to start in and let them start there together with experienced men to advise and instruct them, and, when requested by their parents, to report on the way they are using the opportunities they have. The Indian Polytechnic Association would seek for customers for them, but if Government would at first take some articles from such industrial colonies, on condition, of course, of their coming up to its requirements, I think success would be ensured. The young men would then be made sure of a small earning to cover their expenses and make a moderate living if they had any energy and capacity. But in the case of incompetent ones, the managers would warn the guardians and insist on such young men taking more capable ones as partners, or if the worst came to the worst the management would warn guardians who would be able to sell up the plant to some one else. In a colony of that kind the value of the plant should be easily realised so the capital would not be lost; though of course rules would be made preventing any premium being demanded on account of the special privileges.

It will be necessary to have small industries, because a great factory would not give young men any commercial training. But the management might undertake many kinds of big work dividing it among the various small industries in accordance with the modern principle of specialisation and division of production. But young men would be encouraged to make themselves independent of this support. A good plan, perhaps, would be for them to make arrangements which might be of the nature of partnerships with people in the towns engaged in small industries, working with them and doing that part of the work which could be more economically done in the industrial colonies; an arrangement that could obviously be profitable to both parties. Another reason for having industrial colonies near the towns would be to avoid taking the young men away from the homes, which is important in India.

After a certain time in an industrial colony, under tutelage and guidance, the young men would, if their guardians were satisfied, be able to sell up their industry to another beginner, and make a start wherever they thought they stood the best chance of doing well. The colony experts could advantageously be retired technicists of various kinds and pensioners who would be glad to do the patriotic work of looking after the young men for a moderate remuneration.

What I have said in the appended paper about the Indian Polytechnic Association will show the various other possibilities of such an organisation. I will just add that my experience seems to show that, as with almost everything else in India, it would be immensely helped if Government were to give some direct and practical encouragement.

A condition could be made that young men should be taken to learn and earn on the industries, on the plan I have just described. *Then the Industrial colonies would become self-supporting technical schools established at the expense of the pupils,* brought into existence by organising interests and the Government giving its custom. The agricultural part might develope at first, or might not, but once a start is made in any way further development could be expected. It is evident of what great use colonies might be as nurseries of new industries. We should have in them the ideal conditions to make the first trials and it would of course be the best for the young men to learn industrial work that is going to be in demand. It seems clear also that established industries would in some cases remove to these colonies without asking for any special privileges, and would afford facilities for young men for earning or learning. There are evidently immense possibilities for industrial colonies in a country like India that is beginning to develope its industries. Again, I am able to refer to what Indian leading men have said about these suggestions.

PETAVEL, CAPTAIN J. W.—*contd.*

In conclusion, therefore, I would point out that what the Swiss and French have done, specially the Swiss, in the very striking success of their labour colony of Witzwil, seems to show that there is a solution for the whole problem of establishing a system of practical education that would assure young men a livelihood. I will repeat, because it is important that there is no need whatever to contemplate all the young men taking this industrial training. A portion taking it would be sufficient to render education establishments possible which would offer a vast amount of employment also for those whose education had been entirely literary; and this practical training might quite reasonably be made compulsory for all candidates for science degrees.

I urge therefore that the universities might, in that way, make a contribution that might prove to be of immense importance towards solving the problems of middle class unemployment and industrial development in India.

I point out further that some steps have been taken by the Maharajah of Kasimbazar in which Their Excellencies the Governor of Bengal and Lady Ronaldshay have shown an interest, and, as I have also mentioned, I have in the same way reasons to be thankful to Sir Asutosh Mookerjee, the Director of Public Instruction and the Presidency Inspector of Schools, and many leading gentlemen.

No financial obstacle stands in the way of the next step I propose. It is a matter, not of providing money, but merely of organising, and of developing the idea of the Indian Polytechnic Association. It is the question of utilising existing forces in an organised way to start industrial colonies, as I term them, that would meet a very great need. I have done what is in my power by initiating the ideas of the Indian Polytechnic Association with a degree of general interest and approval which seems to make it clear that with Government help we could ensure the establishment of *industrial colonies* and then we should see practically what developments would follow from these steps, simple and obviously useful in themselves.

APPENDIX.

To relieve unemployment among the middle classes by opening up industrial careers for young men, the first need is to give them a really practical training such as they can have only in an organisation working commercially, well equipped, paying them for their labour, and affording them the opportunities to acquire business knowledge without which technical knowledge alone may be of little practical use.

With respect to this I would refer specially to the evidence given before the Industries Commission that the present kind of industrial school is a failure.

The first step therefore is to have an organisation canvassing for orders for all institutions giving young men training.

Besides training in school workshops young men must have opportunities to gain experience with firms. To secure them such opportunities we need an organisation of the kind mentioned, so that by having orders to place out influence could be obtained over firms who will in turn take in apprentices.

Such an organisation is further needed to assist young men to earn their living when trained.

Many with the most modest capacity could make a living by some small industry established in a place where living and labour is cheap, provided there was an organisation to advise and instruct them as to what to produce, and to take their produce and dispose of it in the commercial centres.

Other young men, more ambitious, would want to work as engineers and to undertake contracts. But many people, who would be glad enough to give them opportunities dare not try the experiment because of the grave consequences that might be entailed by inexperience. But if there was an organisation to which people could entrust the work, and that would send with the young men, older ones of experience (they could be pensioned engineers or subordinates who would be glad to help their young countrymen for very modest remuneration) to see to matters of practical detail, talented and energetic young men could be given a chance.

Again such an organisation of technicists would be able to give most valuable help to anyone desiring to establish any small industries, by advising them and by giving them the kind of technical help they needed, and by having a number of trained men on its books so that it will not be necessary to depend entirely on one man, this is often a fatal weakness with small industries just starting.

Such an organisation, therefore, is what is wanted to employ Indian talent to develope the resources of India which is the ultimate aim.

Probably one of the most useful things we could do now would be to form industrial colonies in which young men starting small industries would be able to establish themselves, enjoying every possible advantage, and having technical assistance and commercial advisors. Under those conditions many guardians would finance young men for a start, who under present conditions would have only too good a reason to fear that the money would be wasted.

The Indian Polytechnic Association if properly supported could bring such colonies into existence.

ROY, MUNINDRANATH.

What is needed is the starting not so much of technological branches of a higher nature as of technical and industrial institutions to teach various crafts and small industries to thousands of students in secondary schools who are neither fit by nature nor intellect for a general course of study, and who are otherwise left alone as worthless and thrown into the midst of undesirable circles, merely because they cannot find anything to learn.

From the seventh class in the high English schools upwards there should be technical and industrial classes opened, separated from ordinary school courses, to train young men who have an aptitude for learning some industry or craft. These schools may at first be started in district towns, as Government schools.

SEN, GIRINDRA KUMAR.

Taking the goal to be the development of "a commercial frame of mind", referred to in my answers submitted to the Commission, I may explain how I may aim at this. The students in the first place should be made to realise, in the words of Walter Bagehot (*Lombard Street*), that "Business is really a profession, often requiring for its practice as much knowledge, and quite as much skill as law and medicine"; that it demands to-day the best brain power in the world; that it is full of intellectual interest and that they will be confronted with a series of problems of policy which cannot be anticipated beforehand, but which will require their right decision when they arise and that the University, not so much by constructing a curriculum,* as by the proper selection of teachers will try its best to awaken and guide their business sense, or, in other words, would try to create in them a commercial frame of mind enabling them to grasp the unforeseen situation and to give such consideration to the problems as in all probability would result in success.

As for the curriculum, I would consult those of other universities before suggesting one that is most likely to be useful and suitable for the young men of Bengal. In any case, I would first give them a general introduction to the subject, somewhat on the lines shown in my article on "Commercial Education" which appeared in the November series of the *Bengal Educational Journal* of 1913. I shall then divide the mercantile persons into different groups and take up the general work done by each in Calcutta and

* "There is no *one* quite obviously right way of constructing the curriculum of a commercial faculty. Everything depends on the personality of the teachers and on what they make the several courses to mean, rather than on the names that are given to the courses or even the syllabus of contents. There are almost as many possible ways of constructing a commercial curriculum as there are, according to Mr. Kipling, of constructing tribal lays, and it is as true of them, worked in the proper spirit, as of tribal lays that 'every single one of them is right.' But the proper spirit is essential; and that is the spirit which constantly remembers that the goal is the power of business judgment."

(Prof. W. J. Ashley, *Modern Commercial Education.*)

the relation of each to other different trades, if necessary. While doing this in the first year, I shall see that they take kindly to commercial and applied geography and begin with the question "why Calcutta will remain the premier city of India"; for, in solving that, the students will be at once introduced to the industries of Bengal, *viz.*, jute, coal, the new promising iron industry and so forth, the freight, the return cargo for steamers bringing the imports, the particular seasons of exports and of the power of purchase of the people for anticipating the import, the railway transport and other allied subjects. I should not be misunderstood as supplying them with any details of statistics so soon, but I will only give them the totals to realise the amount of paper money created during such particular seasons in proportion to the currency available. I shall proceed to give the students a little sketch of the history of trade and manufactures after an interest was aroused in them, and, before they were given an outline account of the business situation of the different countries trading with India, I shall ground them in the theory of international trade, but always proceeding with it, to quote Professor Ashley, "undogmatically." The students should now be made to think out for themselves the *causes* why Lancashire is manufacturing cloth, and so forth. This year they should also acquire such knowledge of accounts as every business man ought to possess.

In the second year, transport and freight which had only been casually mentioned in the first year will be taken up a little before, or side by side with, the work of the managing agents of concerns located in Bengal—from the creation of these up to "the financing and outside marketing, etc.", of jute and other important articles of export, with the help of prospectuses, reports and transactions given in outline, enabling the students to appreciate, not only the exact relation which one item bears to another, but also the place of each in the completed whole. In illustrating business technique, I would require each student to be in turn a buyer, a seller, a shipping agent or as representing an insurance company, or a banker as the case may be. While going on with this work, I would explain to them the exchange of wealth presented in a practical manner and how firms with established credit need not limit the range of their business within the figure of their capital. The students will now be made to realise that the export trade of a country is financed by bills of exchange. In this course of business policy, taking into account the trade of Calcutta as a port, I would lay special stress on the Stock Exchange and financial operations, on banking and on the produce markets, besides the management of shipping business. I would also have the seminar system to let students work up business subjects, especially those that are of importance to India and particularly to Bengal, providing them with materials like statistical works, reports of consuls and so forth.

I have written this draft memorandum not with a view to suggest how to prepare a curriculum, but to save the valuable time of the Commission, while suggesting how, in my opinion, a university type of training can be provided for our young men.

Oral Evidence.

BENGAL CHAMBER OF COMMERCE

Representatives.

CAMERON, ALASTAIR, and CRUM, W.E.

15th February 1918.

* *Management of European firms.*—The responsible managers and assistants in European firms in Calcutta are almost entirely Europeans. A large number of officers are therefore imported from Europe

2. *Employment of Bengalis.*—Bengalis are employed mostly as clerks.

3. *Conditions of appointment and employment.*—A clerk is usually required to have passed the matriculation examination. Some firms hold a supplementary but very

informal, examination in English and arithmetic. The standard of handwriting is fairly good. Men so recruited start on a salary of about Rs. 25 or Rs. 30 a month and may rise to about Rs. 300 a month. A few may receive even more. Some Indians receive as much as Rs. 1,000 a month in Mr. Cameron's employ.

4. *Improved educational qualifications.*—Men with better educational qualifications rarely apply for posts in offices. They object to doing the drudgery work, but it is essential for all to start at the bottom and learn gradually the whole work of the establishment. Graduates in commerce who wish to start on Rs. 300 a month will be of no value and will not obtain employment. A good university education, however, should enable a man who starts at the bottom to obtain speedy promotion. Mr. Crum saw great benefits to be derived in the long run from a good general university education.

5. *Facilities for practical training.*—Both witnesses considered it very unlikely that firms will give facilities for the practical training of university graduates in commerce. Such a practice would be very inconvenient to the offices. Business offices would also find it inconvenient to release their clerks early from office to attend evening classes. The witnesses did not consider either that the University should delay awarding a degree in commerce until the student had completed satisfactorily a year's course of practical training under a firm. A man cannot learn much about business in a year; and heads of firms would be placed in a somewhat invidious position.

6. *Secondary education.*—The witnesses approved the idea of concentrating at present on a comparatively few institutions in which boys of about fifteen could be given a three years' training in subjects suitable for business-career, and especially in colloquial and written English and in mathematics. A really good schooling rarely makes any difference in the initial salary, but it usually makes all the difference in the pace of promotion.

7. *Training in England.*—Neither witness had much experience of the State technical scholars, but Mr. Crum related a somewhat doleful experience of a young Muhammadan of this type.

Note on University Commercial Training by Mr. Crum.

I think that it is possible that some of my evidence regarding the value of university training may be somewhat misleading, and I wish to add a little to what I said.

University training is not to my mind important solely for the academic learning which is imparted.

While not in any way decrying the value of the academic education, I lay far greater stress on the value of university life from the point of view of discipline, association with boys of the same age and the inculcation of a spirit of work and play together for the common good and at the same time of independence which cannot be learned at school.

What we require above all things is a residential university away from the temptations of Calcutta, and without this I do not see how the moral training necessary can be brought about.

Give me the same type of boy at eighteen without university education and at twenty-two with a good university education, and provided the latter is willing to begin at the bottom, I am certain that at the age of twenty-seven the university boy will, in the majority of cases, be drawing far the higher salary.

As regards State scholarships, I think these should include plenty of practical work, and should not be confined to study at one of the universities, but perhaps this is already included.

Generally, I am sure that reforms in education in Bengal should be directed towards the moulding of character more than solely towards the impartation of learning for examinations which later become a standard for Government service.

NEWSON, P. W.

25th February 1918.

Development of commerce.—The witness was very hopeful about the prospects of Indian commerce. The present situation is more satisfactory than it has ever been in the past. Owing to the war and its effect upon European recruitment it is probable that India will have to rely more upon Indian agency in the higher grades of employment.

NELSON, P. W.—*contd.*

2 *Clerks.*—The witness had nothing but praise for the Indian clerks in his service, except that their knowledge of the English language is very deficient. Clerks are recruited in a somewhat haphazard way and usually by the head-clerks and also by advertisement in the daily papers. The average pay is about Rs. 60 or Rs. 70; and the maximum pay in the office is Rs. 350. For the clerical posts witness would prefer a boy of about seventeen or eighteen who had received a good schooling, and especially in English, than a university graduate. He was strongly in favour of evening classes and thought that arrangements could easily be made for attendance at these classes.

3. *Higher commercial education.*—The prospects of those who receive a higher education in commerce are not promising. The witness was not a great believer in commercial education; and he was also very doubtful whether a university education was of great value in business. Regarding the former witness felt that business can only be learnt effectively in the school of experience, and that his firm in making an appointment would not consider a university training in commerce any recommendation. Regarding the latter he admitted that there was a difference of opinion between business people. His own firm did not employ university men, European or Indian. He admitted, however, that a good education probably paid in the long run.

4. *The mills.*—The witness suggested that there was much more scope for Indians in the mills than in the office. Witness would welcome the training of Indians for these posts. On behalf of his firm he offered to give facilities for practical training in his mills to eight apprentices a year. The apprentices would receive a living wage and should have received, if possible, a good school training.

III. ENGINEERING AND ARCHITECTURE.

General Memoranda.

Civil Engineering College, Sibpur.

There is little doubt that provision must be made in India for a considerable extension of the facilities provided for the education of engineers and others employed in industry.

This has become more evident during the war which has shown how very dependent India is upon England and other countries for the essential requirements of such industries as she now possesses, and how very essential for the political and material well-being of the country it is that Indian industries shall be developed and that she shall be made more self-supporting.

2. The necessity of fitting Indians and Anglo-Indians resident in India to take their due share in such development does not need discussion, but the present urgency of the problem may fairly be put forward, and it is this.

India has been relying for many years upon importing trained engineers from Great Britain for many of her industries. Since the war began this supply has been cut off and the industries have been deprived of their recruits. There has, moreover, been an ever increasing demand by the military authorities upon Indian industrial concerns for the best and most capable of the assistants still left, for service in the army or in Mesopotamia and East Africa. At the same time it has been necessary to try to expand Indian industries, with their depleted staff, to meet increasing military and industrial demands.

3. After the war it is practically certain that those men who might otherwise have come to India will be needed in Great Britain in connection with the industrial revival that is sure to follow and the repair of the ravages of war, and to open up in new directions.

Only those with Indian traditions or connections will be willing to make the sacrifice that foreign residence entails, when they will be able to get as good terms financially in their home country; therefore it is not likely that Europeans will be available on the old terms. Moreover, European technical institutions have been practically empty since the war began and the supply of scientifically trained men will be smaller. Those that are available in Great Britain and upon whom she will have to rely to a great extent will be those who have learnt in the hurly-burly of munition manufacture and will have experience mainly in a narrow groove.

The problem is therefore a very urgent commercial problem. The industries need the men and need them badly. They are perfectly willing and anxious to engage competent men quite irrespective of their nationality. A competent Indian who can live on a lower scale of pay than a European will have a great advantage.

4. We must therefore forge ahead, and that without delay, and we must leave no stone unturned to see that the proposals for development that we put forward are absolutely sound. Industries must be run upon business lines if they are going to succeed. An incompetent man, be he engineer, assistant or foreman, when found out is fired out as soon as possible, often being replaced by the more expensive European in spite of the greater cost. No industry can afford to retain an incompetent man. Especially is this true when the industry has to face world-wide competition, and a competition that will become keener and keener after the war. We should also note that, because the Bengali is not industrially inclined, it is America and Japan who have taken advantage of the present opportunity to exploit India. This competition with those very keen and clever nations has come to stay.

5. We must try to attract to our industries the most likely youths of the country and make it clear that engineering and industrial enterprise are not refuges for the incompetent.

Civil Engineering College, Sibpur—*contd.*

6. The industries of the country need two distinct types of engineers.

(*a*) *The practical supervisor or clerk of works.* In England and Europe the latter often rises from the ranks of the workers. In India the workers have not sufficient education to be suitable material to train for such posts and we have to attempt to train them in schools and colleges. A few successful sircars and contractors have risen from the *mistry* or workman class. The attempt to make a clerk of the works out of a Bengali student is not always successful, they don't like the constant attendance the supervision of labour involves and are apt to neglect this all-important work and to try to supervise outdoor work from their office table. The system of education in force in schools is more suited for producing thinkers and dreamers than workers.

(*b*) *The scientifically trained engineer and manager*, such as are turned out by a degree or an advanced diploma course.

7. The preliminary education of the former class before they are recruited to technical institutions or workshops is of great importance.

We cannot afford to hamper our expensive technical institutions with elementary work that ought to be taught, and taught well, at schools. The schools must do their proper work efficiently. We need boys well grounded in arithmetic, geometry, drawing and with some elementary knowledge of the laws of natural science. They should also know English (colloquial and journalistic) well enough to be able to understand and absorb newspaper articles and text-books. Technical jargon they cannot learn at school.

Manual training is an important school subject, as giving boys an opportunity of discovering any natural bent they may have towards constructive work and assists in finding out those more likely to become useful Engineers.

8. At present there are only two examination tests for lads on the completion of their school education, namely, the matriculation and the school final examination of the B. classes (called the B. Final for short). The number of candidates at the matriculation are numbered by thousands and at the school final by tens. 11,250 candidates passed the last matriculation and 32 passed the last school final.

9. The matriculation examination as conducted on its present narrow lines, is an unsuitable test for admission to an engineering college or to a technical school, it ignores in a lofty way all subjects of use to those wishing to follow an industrial career. It has no test in natural science or in drawing and the English encouraged by it is unsuitable.

10. Bengali schools being practically cramming establishments for the matriculation examination, you will find that few, if any of them, present students in more than the minimum number of subjects required to pass. No breadth of intellect is encouraged and at no Bengali school, except those owned by Government, is any arrangement made for drawing or manual training. Boys are not kept at Bengali schools for further training after they have reached the matriculation standard, as is done at public schools in England.

11. Again the very immensity of the numbers appearing at the matriculation examination makes it very difficult to use it as a medium of selecting lads for admission to an engineering school. The delay in announcing the results of the examination amounts to about three months. Bengali students usually wait until they know of their success before applying for admission to the Engineering College. This news takes some time to filter to their distant homes, then there are shoals of applications for the prospectus and eventually applications for admission. If now a demand is made to know the subjects in which the applicants qualified at the matriculation and the marks they obtained, to enable a proper selection of students to be made, other great delays occur. The University office will supply these marks on payment of Rs. 2, but it takes a long time for one applicant (out of 11,000) to receive a certified copy.

12. This year the mere demand for a copy of the marks meant that no more was heard from the candidate wishing to join Sibpur, he found it impossible to obtain it and (two months after the commencement of the session) we were forced to make a further admission in order to get a full class, then lads were taken in irrespective of the subjects they had learnt and their suitability for an engineering or industrial career.

Civil Engineering College, Sibpur—*contd.*

13 *The B. final examination* was started with the special purpose of preparing lads for engineering and industrial careers.

The examination also qualifies a lad for admission to the Campbell and Dacca Medical schools, the Agricultural College, the Veterinary College and is recognised by Government as being equivalent to the Matriculation. The Syndicate will allow a B. Final lad to enter a college to take a science course if he passes the matriculation test in a classical language.

The subjects of the B. final examination are:—

(*a*) Modern English.
(*b*) A vernacular.
(*c*) Arithmetic and algebra.
(*d*) Geometry and mensuration.
(*e*) Elementary science.
(*f*) Elementary surveying.
(*g*) Elementary engineering.
(*h*) Drawing.
(*i*) Manual training.

14. To encourage lads to join the B. classes after passing the test for promotion to the second class of a high English school it has been the custom to promise them admission to the sub-overseer classes of this college and technical schools one year in advance of the matriculates. That is, they join the second year class and the matriculates the first year, so they can appear at the sub-overseer examination after one year while matriculates take two. This has been an unfortunate practice; it has tended to make school masters and school boys think that the B. final examination is solely for admission to engineering schools and also that it has some value as a test of engineering knowledge, which it decidedly has not.

Manual training is no real substitute for carpentry. Elementary engineering learnt as a text-book subject is of no value and the standard in drawing is not equivalent to what should be reached at the end of the first year of a technical course.

15. The result of this, in actual practice, is not encouraging. B. final lads do not do so well at engineering schools as matriculates, as the latter have to pass through our full course.

16. B. classes have been started only where there are technical schools teaching the sub-overseer course or where there are workshops. This was the case at Dacca, but now separate arrangements have been made. The boys are taught manual training, engineering, surveying, science, drawing at the technical schools (except at Dacca) and they are as much pupils of the technical schools as of the Zilla schools. Consequently, the B. classes have tended to become solely preparatory to the engineering schools and as such they are not a success.

17. The right thing to do now is to *organise the B. classes definitely as part of the Zilla schools*, to omit engineering as a subject, to retain surveying as an example of practical mensuration, useful in an agricultural country, and regarded only as such, and to try to develope the classes on a more generous basis as preparing lads for admission to the science courses of other colleges, besides the medical, agricultural, veterinary, surveying, industrial and engineering classes, *and to give lads that pass preferential admission over matriculates to the first year classes only.* It will not be difficult to do this in Government schools as those become equipped with facilities for teaching manual training. The supply of teachers should be no difficulty. The B. final examination would then occupy *its proper* place in the educational scheme.

18. The management of engineering schools and colleges will be easier, because the tendency to over-crowding in the higher classes by bringing in inferior lads direct to advanced standing will be avoided, this will improve the efficiency of the training given at the industrial and engineering schools.

19. The converse is that if we continue to admit B. final lads to the second year class of an engineering school and to prepare them for the sub-overseer examination in one year, we shall reduce the period of training at the engineering school from two years to one, with a certain loss in efficiency.

Civil Engineering College, Sibpur—*contd.*

20. These difficulties in regard to preparing and selecting lads for admission to engineering colleges do not occur in England. There every lad can readily obtain instruction in suitable subjects and practically any lad who wishes to become an engineer can do so by joining workshops or schools. Moreover, technical colleges are provided in othe countries by others besides Government. In Bengal Government is the only supporter.

21. The Government Civil Engineering College at Sibpur is the only technical institution of university rank in the Eastern Provinces and Burma. There are other Government institutions of a lower grade; Bankipur in Bihar and Orissa, Dacca in Bengal, Insein in Burma. *Any lad in this large area who wishes to study in India engineering of a university standard must come to Sibpur.* What are these four Government institutions amongst 100 million inhabitants? Perhaps the 18,000 candidates at matriculation is a fairer basis of comparison. If we consider inhabitants who have reached that standard of education the comparison is not so unfavourable and only becomes so when we realise that practically every one of these 18,000 candidates wants Government employment, whereas in England few matriculates hope for Government service, probably not one has that as his sole aim.

22. The existing facilities need to be supplemented considerably to meet the existing demands of the industries and there is little time to lose. It is mechanical engineers especially that are needed. Training takes time and, even if the facilities were expanded to-day, it will be from four to five years before our first fruits are on the market. How much more urgent is the reform of the schools whence we get out raw material for training.

23. The existing system of technical education in Bengal is as follows:—

A. *University Education.*—A course of training for the B. E. degree in civil engineering is offered at the Sibpur College.

Admission standard, I.Sc.; length of course four years followed by one year of practical training

B. *College Diploma Courses.*—(This term represents these courses better than the name apprentice, permission has been asked to adopt this title.) There are the following courses:—

(*a*) Civil engineering (upper subordinate diploma)—see below.

(*b*) Mechanical and electrical engineering (diploma)—three-year course, followed by one year of practical training.

(*c*) Mining (diploma in the principles of mining)—three-year course.

(*a*) The Civil engineering course is under reconsideration; at present it consists of two standards:

(i) The lower subordinate standard.
(ii) The upper subordinate standard.

The former is a two-years' college or school course and the latter extends over three years, two at school or college and one on practical training. To obtain admission to the latter candidates must first qualify in the former.

(*b*) This course is recognised by the British Board of Trade as exempting diploma-holders from a certain period of the artificer training up to a maximum of two years required of candidates for a marine engineer's certificate of competency.

(*c*) This course is recognised by the Government of India as exempting diploma-holders from a certain period of work underground up to a maximum limit of two years required of candidates for a colliery manager's certificate of competency.

For various administrative and educational reasons it has become advisable to ask Government to separate these two courses and we hope to have an upper subordinate diploma course of three years followed by one on practical training, and a separate lower subordinate course of two years, to follow which practical training may be organised in the future, the better sub-overseers being allowed to proceed to the overseer course. This is in effect what was recommended in the report of the Calcutta Technological Institute who also advised that the institute should conduct its own examinations and grant its own diploma.

Civil Engineering College, Sibpur—*contd.*

These various diploma and other courses are offered as follows :—

Bengal	Civil Engineering College, Sibpur	(*a*) Upper subordinate diploma. (*b*) Mechanical and electrical engineering diploma. (*c*) Mining diploma.
	School of Engineering, Dacca	Upper subordinate diploma.
Bihar and Orissa	School of Engineering, Bankipur	Upper subordinate diploma.

The Lower Subordinate Course (Sub-Overseer).

Bengal	Civil Engineering College, Sibpur, this class failed to attract sufficient students in 1917. School of Engineering, Dacca. Technical School, Burdwan. Technical School, Pabna. Technical School, Rajshahi.
Bihar and Orissa	School of Engineering, Bankipur. Technical School, Ranchi.

The examinations, except the mining diploma, are entrusted to a special board, the *Joint Technical Examination Board.* The Bihar and Orissa schools will probably withdraw shortly from the Board and conduct their own examination.

C.—*Workshop apprentice courses.*—The large engineering workshops in Bengal all admit apprentices, those around Calcutta attend the Calcutta Technical Evening School for theoretical instruction, while the workshops of the railways have each their own arrangements.

A proposal has been drafted to connect these apprenticeship systems with the mechanical and electrical engineering diploma course of the Sibpur College.

D.—*Evening classes* in the colliery districts for mining assistants.

These are connected with the mining diploma classes of the Sibpur College.

24. It will thus be seen that all courses of technical education have their final objective at the Sibpur College and that the courses that have the closest and most important connection with industries are the mechanical and electrical engineering and mining diploma courses.

25. It will now be interesting to see the administration, educational and financial, of the college. This is very complex. There are three separate interested bodies each with different committees which have different functions (see Tables A and B appended), the latter shows clearly the composition of these three bodies and of their various committees, and incidentally of the possibility of expanding the Board of Visitors into a degree giving body fully representative of all interests concerned with engineering and technical education.

26. The present difficulties of administration when dealing with an outside examining body, like the Calcutta University, can best be understood if we follow the track that a proposal for the simplest change in the syllabus or scheme of examination has now to take. Let us assume that the principal is in charge of the proposal. The bodies that have to be consulted are as shown :—

The Principal must naturally first obtain the support of his colleagues, *i.e.*, (i) the *College Council of Professors.* He must discuss the matter with such members of (ii) the *Board of Visitors* as are interested and obtain their approval. Then if it is a matter that concerns the syllabus only of a university course he sends the scheme to (iii) *the Syndicate,* who refer it to (iv) the *Board of Studies in Engineering*; they return it to the Syndicate who send it to (v) the *Faculty of Engineering* who after considering it send it again to the Syndicate who consider the proposal and send it on modified or unmodified to (vi) the *Senate.* Here it may be modified or returned to the Syndicate for modification, but presuming that it is accepted, the Syndicate send it on to (vii) the *Government of India,* who may refer it back to (viii) the *Rector* if he has not already seen it. He after consulting his educational advisers returns it to the Government of India, when if there is any difference of opinion between the Rector and the Government of India, they may refer it back for the opinion of (ix) the *Governor of Bengal in Council.* He will communicate their opinion and send the case back to the Government of India who are the final sanctioning power as regards the syllabus. The Government of India now send the scheme back to the Syndicate. At some or all

Civil Engineering College, Sibpur—*contd.*

points in these wanderings the proposals are liable to modification. The scheme having arrived back at the Syndicate in its final form it is now returned to the college whose staff may not approve of the alterations received *en route*; they have to accept it and lastly the Prinicipal may, if the proposal involves any financial points, have to refer it to (x) his *Governing Body* and get their support in approaching (xi) the *Bengal Government* for funds.

27. The obstacles it will be observed are great and the time lost in obtaining sanction to any change is prodigious, even supposing that the file never gets mislaid on the way. The result is that one does not readily come forward with any proposals for improvement and that the courses of instruction are apt to get hopelessly behind date.

28. At a modern engineering college in Great Britain a professor has little difficulty in revising his courses and in some it is a matter of administrative routine to subject the courses to an annual scrutiny or revision. This leads to a healthy natural growth by gradual progression, modification, in contradistinction to periodical revolutionary changes.

29. The present B.E. courses were devised in 1906, they remain almost exactly as they were then, the only changes that have been made are as regards examinations—

(*a*) To ensure mathematics being studied from a proper standpoint the B.E. tests in mathematics have been changed—

from { (i) Pure mathematics / (ii) Mixed mathematics } to { (i) Theories / (ii) Applications }

This simple change took about eighteen months and was nearly thrown out at one point, without further reference to the college or the responsible professorial staff.

(*b*) To relieve the final year of the B.E. course of the teaching of mathematics and science, which should be finished at an earlier stage, and to relieve the students of some of the heavy load they have to bear (owing to the university examinations covering a two-year course), a change has been made enabling a portion of the I. E. examination to be anticipated at the end of the first year and disposed of, and the non-professional subjects to be disposed of in the penultimate year of the B.E. course.

30. For all practical purposes the connection with the University is disastrous and prevents the development of the college as a self-governing institution. Members of engineering and industrial firms (all very busy people and the future employers of our students) are effectively prevented from interesting themselves in the courses we teach and our arrangements for training and consequently in the type of lad we turn out and ask them to employ.

The University merely does the examining that we can arrange just as effectively ourselves. And as a matter of fact the college staff are now associated in the university examining work with outsiders appointed by the University, an external and an internal examiner being associated for each test, so that the connection with the University is quite unnecessary, we do half the work now. But, alas, they fix the passing percentages in each subject, and to change these, for what we consider reasonable and what our students can easily respond to, would be a very heavy task. Every Senator to whatever faculty he might belong would wish to be heard on such a matter and the small Engineering Faculty would be entirely swamped by outsiders who otherwise never show any interest in engineering education.

31. The practical value of the present connection with the University is merely one of "Window Dressing." We tell the public that we train for a university degree and this helps to attract students.

32. The periodical modification of the "Diploma" courses taught in the so-called Apprentice Department is somewhat simpler than in the case of the university course as described in paragraph 26.

Again supposing the principal to be in charge of the scheme.

He will first consult (i) *his Council* and prepare the scheme himself, then he will send it to the (ii) *Joint Technical Examination Board* who after considering it will, if they accept it, send it on to (iii) and (iv) the *Governments of Bengal* and *Bihar and Orissa* through

Civil Engineering College, Sibpur—*contd.*

(v), (vi) their respective *Directors of Public Instruction*. If acceptable, Government will refer back for financial details and finally reject or sanction the scheme, in the latter case they will send it back to the Joint Technical Examination Board who will communicate the sanction to the Principal. He will then ask his (vii) *Governing Body* for their support in obtaining what financial assistance is necessary from Government.

33. The Joint Technical Examination Board has practically done its work and its continued existence on its present lines is no longer necessary. Bihar and Orissa are comtemplating the withdrawal of their schools from the Board and of making separate provincial arrangements for the work now undertaken by the Board. I know this, because I was one of a committee appointed by the Bihar and Orissa Government to advise upon the development of their central institution, the Bihar School of Engineering. When this takes place the Board will have only Bengal schools to deal with, Government institutions, Sibpur and Dacca teaching the diploma courses, and district board schools, Burdwan, Pabna and Rajshahi, additional schools teaching the lower subordinate course.

34. Again the Board needs reconstitution to carry out properly even the work now entrusted to it as regards the diploma courses. Though it conducts examinations and arranges the courses of study in both mechanical and electrical engineering it has neither a practising mechanical nor a practising electrical engineer in its composition, whereas it has three practising civil engineers. The conduct of the examination for the diploma in the principles of mining and the arranging of the courses of study in mining are outside of its scope; these are done by the Principal and the Mining Educational Advisory Board so that the authority of the Joint Technical Examination Board over the diploma courses is not complete.

It has not been consulted in regard to the proposed affiliation of Railway and other workshops to the Civil Engineering College as regards the training of mechanical engineers nor is it likely to be consulted in regard to the development of mining education now under consideration.

35. In my opinion the Joint Technical Examination Board has survived its usefulness and its functions may be more profitably and efficiently carried out under the scheme propounded in paragraphs 39 and 40 below.

36. It is quite clear that the administration of the educational side of the college is very cumbrous. It is organised in such a way as to make it very difficult for any busy practising engineer to show any effective interest in the training of the young men who, on completion of their training, will hope to get employment from him. Under present circumstances it is not easy to enlist his sympathy and co-operation and these we must have. At a college we can't do much more than lay the scientific foundations of an engineer's training. The successful practice of engineering is the most important part of training of a complete engineer and for this we must rely on the co-operation of employers, and employers now are showing great interest in this matter.

37. In any scheme of re-organisation we must arrange so as to secure their active help and co-operation, this is of far greater importance to the country than the mere granting of degrees, while if the degree granting power could be assigned to a body mainly composed of engineers we shall have done our very best for the country and for the development of its industries. There should be formed in connection with engineering and industrial education, a body entirely independent of the Calcutta University empowered to arrange the courses of studies, conduct examinations and award diplomas and degrees.

38. The clientele of the Engineering College has little in common with other University interests. We look to railway and other workshops in Jamalpur, Kanchrapara, Khargpur, Lilooah, Sakchi and Calcutta for assistance in training mechanical engineers and to mines at Asansol, Jherriah, Giridih, etc., for assistance in training mining engineers. It is impossible to imagine a university taking any useful practical interest in the training of mechanics at a workshop institute and it is with such training that we hope to affiliate our mechanical engineering courses. Similarly a university situated in Calcutta cannot show any useful practical interest in the underground training of mining engineers and in local lectures in the coal fields. These latter feed our mining classes.

As regards the present connection with the University, namely, the training of civil engineers, the present college workshop courses demanded of assistant engineers are not

Civil Engineering College, Sibpur—*contd.*

recognised by the University. The Public Works Department prescribed these standards and they are taught at Sibpur over and above the university syllabus.

The practical training course again prescribed for a full college diploma of "Civil Engineer" that follows the B.E. degree is beyond the scope of university connection and though it forms the crown of the college course it is impossible to associate the University therewith. Again the University can take no active interest in the civil engineering courses for the training of sub-overseers and overseers or of their practical training courses.

These practical training courses are in India very important parts of the college courses and have to be arranged with contractors, railways, public works, district boards, etc., it is quite impossible for them to fall within the purview of the University.

In England, such practical training is provided by apprenticing lads to engineering firms after they have obtained their engineering degrees from the University which have no concern with such apprenticeship. In India things have not yet developed to this stage, the college has to arrange for the practical training of its degree and diploma holders and we give a *Diploma of Civil Engineer* of still higher professional value than the B.E. on the satisfactory completion of the practical training.

39. Many engineering colleges in Germany that have no connection with universities grant engineering degrees of bachelor and up to doctor. A similar practice is found in America. A similar power may be entrusted to those controlling engineering education in Bengal. Such an arrangement was doubtless found necessary to provide for the proper development of engineering education in the closest touch with employers to enable those responsible to devote themselves whole-heartedly to it without other unconnected distraction.

40. An examination of Table (B), which shows the comparative compositions of College administrative bodies, the Joint Technical Examination Board, and the Faculty of Engineering will quickly demonstrate that so far as composition is concerned the Board of Visitors with its forty members is far more representative of the varied interests of the college than either the Joint Technical Examination Board or the Faculty of Engineering. The Board of Visitors is a strong body and with slight additions and modifications it is quite strong enough and representative enough to be entrusted with the full control of the courses of instruction and of the examinations and may well be given the power of granting degrees and diplomas. It needs representatives of mechanical engineering, electrical engineering, sanitary engineering, architecture and its functions to be carefully detailed.

41. *This enlarged Board of Visitors, or whatever future name may be given to such a body, should absorb the functions of the Faculty of Engineering and the Board of Studies in Engineering, also of the Joint Technical Examination Board, and it should be entrusted with the control of engineering and diploma courses throughout Bengal.* This may easily be arranged as the only institutions offering such courses are Government institutions, Sibpur and Dacca. The whole of the funds are provided by Government, and unlike arts, science, law and medical colleges, there are no other vested interests to consider.

42. Government could take the first step towards such a scheme by merely appointing a joint board of visitors for Sibpur and Dacca so far as the diploma courses are concerned, and absorbing in this the functions of the Joint Technical Examination Board.

This Board of Visitors would include *advisory boards* for *civil engineering, mechanical and electrical engineering* and *mining*, who would advise Government concerning the development of education in these branches throughout Bengal. From these advisory boards a *board of studies and examinations* would be framed. This will provide a means for the proper co-ordination of syllabuses, teaching arrangements and examinations, which is now lacking and will enable practising engineers and employers to be very closely associated with this important work.

43. These diploma courses may be developed to any extent and ultimately degrees may be granted, whenever the demand for more highly qualified men would justify the extra cost that would be involved and the Board of Visitors (or whatever it may be called) could be entrusted with the award of such degrees and could take over, either then or perferably from the very start, these powers now invested in the Calcutta University.

Civil Engineering College, Sibpur—*contd.*

44. The members of the governing bodies of the Sibpur College and the Dacca School of Engineering should be members of this Board of Visitors so that they should be thoroughly in touch with the development of technical education.

45. Just as medical education is under the Medical Department for Government administration, agricultural education under the Department of Agriculture and veterinary education under veterinary authorities so should technical and industrial education be under the Department of Industries.

It is difficult to exaggerate the importance of giving effect to this change which has become ever so much more evident since the war. Crowds and crowds of technically trained workers are needed by the military authorities and by the industries. The Indian Munitions Board appeal to the industries to spare their men and to take on others for training. They have not asked the Education Department to assist and the industrial training institutions are left in the cold. *If they had now been under the Department of Industries, that Department would have developed their training facilities to the utmost and they would have been of far greater use to the country.*

46. The military authorities need—

Structural engineers, surveyors, electricians, overseers, sub-overseers, draftsman, motor car mechanics, steam launch drivers, motor launch drivers, carpenters, blacksmiths, copper smiths, fitters, machinists, moulders, tin smiths, turners, electrical wiremen, engine drivers, etc., etc. The training of many is being improvised, and the experience gained in such training and the facilities and means of instruction will all be lost, unless technical and industrial education is at once taken over by the Department of Industries and that Department is associated with the training.

47. The Indian Munitions Board has taken over the following industries:—

Army clothing.
Ordnance factories.
Tanning.
Bolt and nut making.

It is going to start—

Ship building.
Acetone manufacture.

In the more important of these, there are great facilities for the practical training of apprentices and if the Munitions Board now had the responsibility for technical education there is little doubt that it would push schemes of training as it must train workers for itself and for the Army Department who appeal to it for assistance in the same direction.

48. If only Government would determine on the retention of the College at Sibpur at once, we could proceed with development there, and increase our barrack and classroom accommodation and help to meet the situation. A grand and unique opportunity is passing by us.

49. The case for handing over the technical and industrial schools to the Department of Industries is exceedingly strong, and if there is any intention whatever of doing so, it should be done without delay. We should not wait till the war is over or we shall lose the present magnificent opportunities and the experience we might gain. It would be absurd to leave the college and the schools temporarily with the Department of Education; let them now be expanded on the lines they should follow in the future and under the fostering care of the Department of Industries.

Also it is very evident that all matters concerned with technological and industrial education should be entrusted to one single body entirely independent of the University. The training of engineers and the training of mechanics are so inextricably intermingled—the same facilities are needed for both—that we do not want to complicate administration by affiliating any college or school to an outside university. The University cannot take any active professional interest in the training of the supervisor class nor of the very large number of mechanics enumerated in paragraph 44 above, whose training is largely a workshop matter. *Employers are the connecting link, not the University.* Rather let employers who are vitally interested in the thorough training of their engineers, assistants and mechanics be entrusted with this education than the University.

Civil Engineering College, Sibpur—*contd.*

50. Bengal is not rich enough, or rather I should say Government is not rich enough, to multiply the institutions for training men of the various grades. They must be trained in a very limited number of colleges and schools. Do not therefore dissipate the energies of the administrators of those institutions by multiplying the outside educational bodies they have to deal with. Let technical and industrial education be self-contained.

51. Technical and industrial education is so vast and special a subject that it almost needs a separate commission of its own. It is sincerely to be trusted that employers of labour and manufactures will be consulted in regard to the future organisation and administration of technical and industrial education. They should have the deciding voice and if things are arranged to their satisfaction they will be the more ready to co-operate and to help with money. We cannot afford to ignore their opinions and wishes.

52. I (Mr. B. Heaton, the principal) have previously given evidence regarding various aspects of the work of this college and the development of technical and industrial education to the Royal Public Services Commission, the Indian Industrial Commission and the Public Works Re-organisation Commission. I trust that their recommendations may be given due consideration in determining the future of this college. The latter two commissions contained a number of engineering and industrial experts and examined a large number of expert engineering and business witnesses. The advice especially of the Indian Industrial Commission in regard to the association of engineering colleges with universities, especially with other faculties should have very great weight, as also the future administration by Government, whether through the Department of Public Instruction or the Department of Industries.

53. The report of a committee of the Governing Body of the Civil Engineering College regarding the training of mechanical engineers in Bengal is under the consideration of the Government of Bengal.

A further report by the same Committee regarding the development of the Mining Department at Sibpur will shortly be put before the Governing Body.

A report upon the condition of sub-overseer and overseer training classes in Bengal, 1915, also gives a lot of useful information.

54. With reference to the future of the Dacca School of Engineering, it is not likely that Government can staff and equip this school on the same scale as Sibpur. The only diploma course common to Sibpur that Dacca teaches is the upper subordinate diploma course. Dacca has no mechanical and electrical or mining classes, but even in this civil engineering course, neither the staff nor the equipment of Dacca is on the same scale as Sibpur. Dacca is further from the civil engineering activities of large cities, railways, ports and Government engineering administration.

Dacca is in the centre of what is pre-eminently an agricultural country. We may take advantage of this and direct the energies of the Dacca school into a line more connected with rural engineering rather than urban.

Agriculture is the largest industry of India; an agricultural college is needed. Zemindars need surveyors and so does Government for settlement and other purposes. Research is required into the engineering side of agriculture. Why not combine the Dacca "School of Engineering" with the "Mainamati School of Land Surveying:" (there is a proposal to remove the former from its present building in the compound of the Dacca College, while the latter is in temporary kachcha buildings that must soon be replaced by something more permanent). These two, with an agricultural school or college, will afford a very useful combination and could offer the following courses:—

(*a*) High grade land surveyors.
(*b*) Lower grade surveyors.
(*c*) Draftsman.
(*d*) Sub-overseers.
(*e*) Upper subordinates. These two latter with special reference to mofussil district board requirements, sanitation, drainage, with side lines-agriculture, irrigation.
(*f*) Agricultural courses as may be specified by agriculturalists.

B. HEATON.

T. H. RICHARDSON.

Civil Engineering College, Sibpur—*contd.*

E. H. ROBERTON.
C. A. KING.
B. C. GUPTA.
R. N. SEN.
S. N. MAITRA.

NOTE.—The evidence above was drafted by the Principal considered at a meeting of the College Council and generally agreed to. Mr. R. N. Sen has written the following additional memorandum :—

I generally concur with the views expressed in the evidence, but I look upon the necessity of severing all connection with the University as extremely unfortunate. I fervently hope for the day when the various branches of knowledge and intellectual pursuit shall find full and free scope for their healthy growth and natural development within the Calcutta University as in some of the modern universities in the United Kingdom. The ideal of organisation is not separation or isolation (which not unoften leads to weakness or abnormal growth detrimental to the body corporate), but harmonious co-ordination and co-operation between the independent units of the organised aggregate, between the different members and limbs of the body corporate. There is perhaps no particular reason why the University of Calcutta should fail to embrace and foster the various educational interests of the country—general as well as technical or industrial. It is a great pity indeed, if the university connection with the Sibpur Engineering College has not so far been beneficial up to the expectation and rather disadvantageous in many ways, but complete separation should only be resorted to if the necessary changes and the desired improvements be impossible or impracticable within the University, just as amputation may be considered necessary for saving the life of the patient only when all other reliable means fail. There is no reason why the Sibpur Civil Engineering College, properly developed and expanded in the fulness of time, should not form the centre of all technical and industrial education within a great university with the high ideal of the advancement of knowledge in all phases and spheres of life. I believe in harmony not only as the soul of music, but as the soul of perfection in everything.

APPENDICES.

TABLE A (see para. 25.)

The Joint Technical Examination Board.	The College and Government.	The University.
An examining body for the courses of the Apprentice Department, these are practically college diploma courses.	....	An examining body for the B.E. *Degree in Civil Engineering.*
1. The Joint Technical Examination Board conducts the sub-overseer examination.	1. The Principal.	
The overseer examination in civil engineering, mechanical and electrical engineering, but not mining.	2. The Council of Professors (not recognised by Government).	1. The Board of Studies.
This Board needs reforming as it has no representations of practising electrical or mechanical engineering and cannot take over the mining diploma.	3. The Board of Visitors (advisory), appointed by Government, with committees.	2. The Faculty of Engineering.
	(*a*) The Domestic Committee appointed by the Board of visitors.	3. The Syndicate.
	(*b*) Mining, also controls mining education in coal-fields. This is appointed by Government.	4. The Senate.
	(*c*) Civil engineering, Mechanical engineering, Electrical engineering, Dyeing } formed by the Principal when advice is needed.	The Principal is probably— (*a*) Dean of the Faculty of Engineering.
	4. The Governing Body (some executive functions) appointed by Government.	(*b*) President of the Board of Studies.
	(*d*) The Financial Committee of the Governing Body appointed by the Governing Body.	(*c*) Representative of the Faculty or the Syndicate.

TABLE B.

College Administration.

Remarks.	Board of Visitors. 40 Members including— Governing Body 10 (G). Mining Education Advisory Board 11 (M). Domestic Committee 8 (D).	Faculty of Engineering. (8 Members).	Joint Technical Examination Board. (7 Members).
	Administration (Educational).		
Intended connection with industries	Member of Council in charge of Education . (G). Director of Public Instruction, Bengal . (G). " " " " Bihar and Orissa. " " " " Assam. " " " " Burma. Superintendent of Industries, Bengal . (G), (M). Director of Industries, Bihar and Orissa, represented by Principal, Bihar School of Engineering.	....	Superintendent of Industries, Bengal.
	Practising Civil Engineers.		
Government . . .	Secretary to Government (Roads and Buildings) (G).	Secretary to Government of Bengal, Public Works Department, Irrigation.	Secretary to Government, Public Works Department (Roads and Buildings).
	Superintending Engineer, Public Works Department, Eastern Bengal Circle, Bengal.	....	Superintending Engineer, Eastern Circle, Bengal.
	Superintending Engineer, Public Works Department, Gandak Circle, Bihar and Orissa.	....	Superintending Engineer, Public Works Department, Gandak Circle, Bengal.
Railways	Representative of East Indian Railway.		
	" of Bengal Nagpur Railway.		
	" of Eastern Bengal State Railway	Mr. H. A. Crouch, Government Architect.	
Architect Contractor . . .	Sir R. N. Mookerjee . . . . . (G).	Sir R. N. Mookerjee.	

PRACTISING MECHANICAL ENGINEERS.

Railway	Loco. Superintendent (Eastern Bengal State Railway). (G.)	....	None.
Marine	Deputy Director, Royal Indian Marine .	None.	
Contractor	Mr. W. R. Steele (Burn & Co.)		

PRACTISING ELECTRICAL ENGINEERS.

	None.	None.	None.

MINING.

Government Administration .	Chief Inspector of Mines in India . (G), (M). Senior Inspector of Mines . . . (M).	....	None.
	Senior Inspector of Mines . . . (M).	None.	
Indian Mining Association . .	Chairman, Indian Mining Association . (M). Mr. Glen George, Chief Mining Engineer, Bengal Coal Co. (M). Mr. G. Miller, Superintendent . . . (M).		
Indian Mining Federation . .	Mr. M. N. Mukerjee . . . . . (M).		

DYEING.

Messrs. Andrew Yule & Co. . .	Mr. Donne of Andrew Yule & Co. . . .	None.	None.
Manufacturing Chemistry . .	Col. Grice of Smith Stanistreet & Co.		

CIVIL ENGINEERING COLLEGE STAFF.

	Principal, Civil Engineering College (G), (D), (M).	Principal, Civil Engineering College . . .	Principal, Civil Engineering College.
	Professor of Civil Engieeering . . (G), (D).	Professor of Civil Engieeering.	
	Professor of Mining . . . . (G), (M).	Professor of Mechanical Engineering.	

TABLE B—*contd.*

OTHER EDUCATIONAL MEMBERS.

	Principal, Bihar School of Engineering, Bihar and Orissa. (M).	....	Principal, Bihar School of Engineering.
	Head Master, Dacca School of Engineering, Bengal	....	Head Master, Dacca School of Engineering.
	Inspector of European Schools, Bengal . (D).		

GENERAL PUBLIC.

	Commissioner, Burdwan Division.	
	District Magistrate, Howrah . . . (D).	The Registrar of the University.
	Civil Surgeon, Howrah . . . . (D).	Mr. Middlemiss of Geological Survey.
A prominent benefactor to education.	The Hon'ble Maharaja of Kassim Bazar.	
Interested in industrial education	The Hon'ble Sir Nil Ratan Sarkar . . (D).	
Principal, University College of Science.	Dr. P. C. Ray.	
Prominent Muhammadan . .	Nawab A. F. M. Abdur Rahman . . (D).	
Indian Association for the Cultivation of Science.	Rai Jogendra Chandra Ghosh Bahadur . (D).	

The members of the Faculty of Engineering are nominated or elected. There are none *ex-officio*, to simplify comparison the posts occupied by the present members are given.

COWLEY, The Hon'ble Mr. F. A. A.—CROUCH, H. A.

COWLEY, The Hon'ble MR. F. A. A.

A candidate desirous of pursuing a special course of study in the higher branches of engineering with a view to adopting engineering as a profession should have a good sound general school education. This may be tested by either a special examination or by requiring the candidate to pass some recognised standard of examination, such as the intermediate examination in science of the Calcutta University. It is essential that he should have a good practical knowledge of English and English composition and be able to show general proficiency in the lower branches of pure and applied mathematics and applied science.

In addition, he should have a fair knowledge of machine, geometrical, perspective and free hand drawing and his knowledge of these subjects should be tested by a special examination.

He should then be admitted to a special college of engineering where he can undergo a special training in the higher branches of study, both theoretical and practical, for the engineering profession.

His progress during this training should be tested by periodical examinations at which he should attain a minimum standard of efficiency. At an early stage, say at the end of the first year of his special training, if the candidate does not show an aptitude for the engineering profession he should be required to leave the Engineering College or for special reasons be required to go through the first year course over again.

He should be finally tested at the end of his college course provided he has made use of his opportunities for learning, by the university examination for the degree of bachelor of engineering. Having obtained his degree of bachelor of engineering he should finally be required to go through a practical course of engineering to fit him to carry on his profession.

The brief summary which has been given of the educational requirements of a candidate who desires to practise engineering as a profession is what my experience teaches me to be required. In Bengal, at the present time, the course of instruction imparted to candidates generally follows the course which I have stated above, but my experience shows:—

(*a*) That graduates in engineering in the present day have not much aptitude to apply to practice the knowledge which they have studied in theory.

(*b*) That, to a large extent, they are unable to express themselves properly in English.

I attribute this largely to the candidates'—mostly Bengalis—power to assimilate text-book knowledge without reference to practical application and to their deficient grounding in modern English prose.

The above are my general views on the subject of education for the engineering profession in India.

CROUCH, H. A.

It is, I consider, highly desirable that provision should be made for the systematic training of architects in India. A start has already been made in this direction in Bombay. A class was formed some fifteen years ago in connection with the School of Art in the first instance, and mainly for training architectural draughtsmen. This class was held in the mornings before office hours and instruction was given by architects in Government service and others practising in Bombay. The class developed and formed the nucleus of a school which at the outbreak of the war had been placed in charge of a professor of architecture specially recruited from England for the purpose. A few men who have passed through this school have subsequently proceeded to England and qualified as associates of the Royal Institute of British Architects.

No similar opportunities for the study of architecture exist in Calcutta. A few lectures on the principles of architectural design were given prior to the war to the third and fourth year students at Sibpur Engineering College by one of their professors who is not an architect, but this subject is not included, I understand, in their examinations. At the

School of Art a class is held in architectural drawing. The time table of the school, however, prevents the attendance of the few qualified architects practising in Calcutta.

It appears to me to be most desirable that a school of architecture should be established here. With the present rapid growth of this city, and, considering the amount of decentralization suggested by the report of the Public Works Department Reorganisation Committee recently published, there should be plenty of scope for men who pass through such a school and subsequently fit themselves for the practice of architecture.

I would suggest a three-year course being established at Sibpur College for specialising in architecture, the entrance standard for which should not be less than the intermediate science or intermediate arts pass. I suggest Sibpur in preference to the School of Art to avoid duplication of staff. Some of the subjects taken by the students in the School of Architecture, *e.g.*, materials, building construction, stresses and strains, reinforced concrete, etc., would be somewhat similar to those taken by the engineer students. On the completion of this three-year course, a further two years in the office of a trained architect would be necessary for practical experience before a man could be considered thoroughly qualified to practise architecture.

The architectural side of Sibpur should be placed under a professor of architecture who in the first case would probably have to be recruited from Great Britain. He should have had previous experience in teaching, should lecture on the history of architecture, mouldings, features and ornaments of the various periods, on the principles of design, on sanitary science and on town planning.

On the assumption that the staff of the Engineering College would be able to instruct the architectural and engineering students in subjects common to them both, I think a professor of architecture with the aid of one assistant master would prove sufficient staff for the architectural side of the college, provided admissions are limited to twenty students each year. On the other hand, if the staff of the college were not available for the architectural students it would be found necessary to appoint two assistant masters. It would, I think, be an advantage for the engineer students to attend the course on town planning on the architectural side of the college.

A great deal must depend on getting the right type of man in the first instance as professor of architecture. Such a man could, I think, be recruited on a ten-year agreement, the first three years of which could be on probation, provided sufficient terms and a bonus at the expiration of the period were held out as an inducement. I suggest that he should be allowed free quarters and have the rights of private practice. He should receive a salary of not less than Rs. 800 per mensem in the first year, rising by annual increments of Rs. 50 until the end of his agreement and be allowed to contribute to a provident fund on a scale not lower than the Railway Provident Fund, *viz.*, a compulsory contribution of $\frac{1}{12}$th of his salary, a bonus of 100 per cent. on his contribution and 4 per cent. compound interest. The above are the minimum terms a good man at all conversant with the conditions of life in Calcutta is likely to accept. It may prove necessary to improve the terms to induce the right type of man to join Government service for only ten years.

The assistant master would also, in all probability, have to be recruited from England in the first instance. I suggest that he should receive a salary of Rs. 400 with annual increments of Rs. 40 and the privilege of contributing to a provident fund similar to the one I have described.

RICHARDSON, THOMAS H.

I have read the note by the staff of the Civil Engineering College and I agree with it generally, except that I would not approve of a technical college giving a B.E. degree. A university degree should mean a good general, as well as technical, education alongside of students in other subjects.

It is not a question of which system is best, but one system ought not to pretend it gives the same as the other.

Membership of the Bengal Engineering College as in the case of the College of Surgeons at Home would indicate what the training was.

TIPPLE, E. F.

The witness has had nearly twenty-one years' experience of educational work as Professor of Mathematics at Thomason College of Civil Engineering at Roorkee, United Provinces, at which institution he has on two occasions officiated as principal. he has also had some experience of school work as a member of the Central Board of Examiners for the School Leaving Certificate in the United Provinces and has acted for some years as a mathematical examiner for the degree examinations of the Allahabad University. Consequently the evidence submitted herewith is drawn solely from educational experience gained in these provinces (United Provinces) and the witness does not pretend to any special knowledge of educational conditions in Bengal.

Moreover, the Thomason College, although for some years nominally affiliated to the Allahabad University, has never formed an integral part of that University, its true position having always much more closely resembled that of an isolated school of engineering such as existed in England at Coopers Hill from 1871 to 1905, and consequently the witness possesses no intimate knowledge of the inside working of Indian universities.

This statement has, therefore, been prepared with the object of drawing attention to certain anomalies which exist in the administration of Indian educational affairs and which hamper the healthy development of educational activities in this country.

Briefly stated these anomalies are:—

(*a*) Educational experience gained in India by the educational officers of Government is largely a wasted asset.

(*b*) A lack of continuity exists in the main outlines of the educational policy of Government.

(*c*) The disciplinary value of Indian education, under existing conditions, is extremely small.

(*a*) *Wasted asset.*

Direct evidence for this has been collected and summarised at different times in connection with educational developments at Thomason College, and is contained in the appended minutes:—

Appendix I.—Minute on the Thomason Civil Engineering College. Roorkee, 1907.

Appendix II.—Minute on Technical Education in the United Provinces, 1909.

Appendix III.—Minute on Indian Education with special reference to the reorganisation of the Indian Education Department, 1913, and

Appendix IV.—Four Minutes submitted to the Public Works Department Reorganisation Committee.

The majority of this evidence applies primarily to the Thomason College, but as indicated in the Minute on Indian Education there appear to be reasonable grounds for considering that this anomaly which has exerted such conspicuous influence at Thomason College and at Coopers Hill, is to some extent a general feature of Indian educational administration.

Thus, the unwieldy senates of Indian universities and the lack of safeguards to ensure the presence of adequate teaching experience on the faculties appear to be traceable to this cause; while the unsatisfactory position of Directors of Public Instruction in the local secretariats is an indication of the value attached to educational experience at the head-quarters of local Governments.

This attitude is reflected at many educational institutions, whether schools or colleges, where it is customary for the head of the institution to withdraw from actual teaching or tutorial work and confine himself, almost entirely, to administrative duties; which, thereby, acquire an exaggerated importance quite out of proportion to their true significance; while, at the same time, the administration itself tends to lose touch with educational realities.

In the interests of educational work it is of the highest importance that this attitude should be radically altered. An attempt was made to purge the senates of Indian universities, during Lord Curzon's régime; it is, however, doubtful whether this process has been continued far enough.

TIPPLE, E. F.—*contd.*

(*b*) *Lack of continuity.*

Evidence under this heading, so far as it relates to Thomason College, is forthcoming in the two appended minutes (Appendix IV, A and B) submitted by the witness and Dr. Phillips to the Public Works Department Reorganisation Committee. Moreover, although this evidence applies primarily to a single institution of somewhat restricted educational scope, it must be borne in mind that for ten years this institution was affiliated to Allahabad University; was, during that time, supposed to be "developing into an industrial and technical institute which will control and stimulate teaching of all kinds in the United Provinces," was expending large grants on such so-called development; and its affairs were receiving a considerable amount of first-hand attention from both the Government of the United Provinces and the Government of India.

Under such circumstances the record in the two minutes suggests that much difficulty was experienced by Government in attempting to follow a continuous and consistent line of educational policy extending over a considerable period of years.

This is more clearly indicated, so far as the local Government is concerned, in the case of the technical classes at Thomason College and in the matter of the affiliation of the institute to the University. In connection with this latter point it may be noted that affiliation took place about 1895, disaffiliation in 1905, Government accepted a resolution in the Provincial Legislative Council in favour of re-affiliation in 1916, while the recently appointed principal expressed himself as opposed to such affiliation in 1917 when giving evidence before the Public Works Department Reorganisation Committee.

Similar want of continuity has been exhibited in connection with the development of industrial schools in the United Provinces; and considerable explanation in official resolutions has been necessary in connection with educational readjustments at the headquarters of the Government of India since the appointment of a Director General, his abolition, and the subsequent creation of an Educational Commissioner, before the full coherence of these changes could be made manifest (*vide* also Minute on Indian Education, Appendix III).

Disciplinary value.

It is not necessary to put forward much special evidence on this point, since the fact is more or less generally admitted. Reference may be made, however, to the frequency of strikes among students at Indian schools and colleges; the excessive sympathy exhibited towards the failed candidate, and the tendency to regard him as the victim of anything other than his own intrinsic incapacity; the numerous applications for leave from study submitted on every conceivable opportunity and for any conceivable reason; habits of unpunctuality and general carelessness with regard to regulations.

These matters reflect primarily upon the home and school life of the pupils, but they cannot be disregarded in any study of Indian university life. Unless a sound foundation in discipline and a sense of responsibility be laid in habits fostered at home and in school it will be almost impossible for the colleges to raise any profitable educational superstructure whatsoever.

Experience at Thomason College, however, indicates that the authorities have not always been free from liability in this matter; thus some few years back it was discovered that candidates for entrance had in certain cases falsified their ages and had thereby gained admission under false pretences. Special steps were taken to prevent the recurrence of this irregularity, but a year or two later the authorities themselves admitted certain candidates who were over-age, which action at once created a sense of grievance among the regular candidates who were obliged to compete with those irregularly admitted.

Furthermore, any lack of continuity in policy is bound to create hardships which will naturally demand special treatment, and the multiplication of such cases is not conducive to good discipline.

In conclusion, the witness in presenting the evidence from Thomason College, is in no way attempting to urge that the conditions existing at that institution should be regarded as typical of educational institutions in India. No attempt is made to disguise the fact that the conditions at Roorkee are in many ways exceptional and special.

TIPPLE, E. F.—*contd.*

Apart from this, however, it must be admitted that Thomason College is an educational institution which has received a large amount of direct official attention, but which has not fulfilled its educational purpose as outlined by the Colvin Committee in 1891 and subsequently by the Government of India in 1903; that its counterpart in England at Coopers Hill, under the management of the India Office, similarly failed to develope into a successful school of general engineering; that the failure in England was of no great consequence since other and better organised schools existed; that the failure in India is of greater importance since it hampers the general development of technical education in the country.

It may, therefore, reasonably be maintained that the existing system of administration of Indian educational affairs is not really stimulative and consequently needs fundamental readjustment.

APPENDIX I.

MINUTE ON THE THOMASON CIVIL ENGINEERING COLLEGE, ROORKEE, UNITED PROVINCES, 1907.

Brief résumé of college history (*vide* Appendix A).

The origin of this College was a training school for artisans started at Roorkee in 1845 at the time of the construction of the Ganges Canal. The increasing activity of the Public Works Department about that time quickly led to the organisation of a college intended to train civil engineers for this branch of the public service. The college was thus the forerunner of Coopers Hill, but its educational work has always been more extensive in character than that of the sister institution founded later in England. As early as 1848, its work was divided into three parts corresponding with the present engineer, upper subordinate and lower subordinate classes; the object being to train men for all grades of the Public Works Department and not merely for the superior establishment. At its inception, the College was placed under the management of a Royal Engineer as was natural at a time when these officers formed the only trained body of engineers in the country. With the increasing demands of the Public Works Department for men with an engineering training and with the growing desire of the Government to assist industrial developments, the scope of the college work has at different times been enlarged until at present it claims to be "developing into an industrial and technical institute which will control and stimulate teaching of all kinds in the United Provinces." Thus there are now industrial classes, mechanical apprentice classes, and technical classes, in addition to the three mentioned above, from which it follows that the educational work attempted is of a much more complex character, and covers a much wider range than was the case at Coopers Hill, and for thorough efficiency the organisation and control of such an institution must rest upon a sound educational basis.

Expenditure.

Annual cost taken from statements in college calendar.

The following figures for the expenditure in the sessions 1902-03 and 1903-04, may be verified from the statements at the end of the college calendars for 1904 and 1905, the most recent issues up to date:—

	1902-3.	1903-4.
	Rs.	Rs.
Total expenditure	2,32,862	2,59,719
Total receipts	1,02,752	1,13,133
Cost to Government	1,30,110	1,46,536
Teaching staff salaries	79,661	83,109
Office establishment	9,006	8,080
Cost of college printing work	6,495	4,999
Total press receipts	35,267	44,460
Total cost of Press	33,616	40,114
Profits of Press	1,651	4,546

TIPPLE, E. F.—*contd.*

With regard to these figures, it may be noticed that,—

Abnormal office expenditure.

(*a*) The Principal's salary is included under teaching staff, although his duties are those of a registrar or superintendent of an office. Under the present system the Principal takes no part in the real educational work of the College, all his time being devoted to correspondence and routine office work. If this item of expenditure be transferred to office establishment to which at present it rightly belongs, the figures become—

	1902-3.	1903-4.
	Rs.	Rs.
Teaching staff	66,342	68,009
Office establishment	22,325	23,180

giving a proportion of about 3 to 1 upon which comment is scarcely necessary.

Profit-making section detrimental to educational interests.

(*b*) From the above figures it is also seen that the amount of work performed for the College by the Press fell from $\frac{1}{6}$ to $\frac{1}{9}$ of the yearly output during the two sessions considered. This decline has continued, and at present all the College printing work is sent to the Government Printing Depôt at Allahabad, so that the College press executes work almost exclusively for the Government Survey Department, and must consequently be regarded as almost entirely a commercial section, its object being mainly profit-making, and its educational work, if any, being merely the training of press artisans or apprentices.

The inclusion of a commercial profit-making section at any educational institution is very strongly to be deprecated, since immediate commercial and educational interests are incompatible. An institution devoted to technical education, or even to technical tra.ining,* cannot be run at a profit, and in the matter of developments and extensions wherever an attempt is made to serve the double purpose, there will always be a tendency to favour the so-called paying section in preference to the non-paying one. The higher part of the educational work is thus placed at once at a considerable disadvantage.

Moreover, for true commercial success, customary business hours, and the discipline necessary between servant and master, must be rigidly enforced. This latter is fundamentally different from that which should exist between a pupil and teacher, while the mental attitude of the student towards his daily task should be equally distinct from that of the workman towards his daily labour. Consequently any serious attempt to combine two such dissimilar sections at one and the same institution must result in loss of efficiency in each.

At Thomason College, where the commercial section occupies nearly $\frac{1}{3}$ of the College main building, some compromise in the matter of working hours and discipline cannot be avoided; while, furthermore, the presence of this section has necessitated the building of a workshop block, a central power station and new class-rooms at a considerable distance from the main building, thus preventing that systematic arrangement of plant and accommodation which forms such a special feature of up-to-date technical institutes in England, and without which proper supervision and consequent educational efficiency cannot be assured.

* By technical training is meant the instruction which would be given in so-called trades classes, *i.e.*, for plumbers, fitters, weavers, bricklayers, etc. For such technical courses, the only previous education necessary is that given in a primary school, *e.g.*, reading, writing and arithemetic.

Technical education, on the other hand, is provided at such technical institutes as at Charlottenburg, or the City and Guilds of London Colleges, etc. For such courses the students at entrance must have had a good secondary education on scientific lines, and on passing out they are qualified for the careers offered in connection with civil, mechanical or electrical engineering, or industrial chemistry.

TIPPLE, E F —*contd.*

Organisation.

The students taking the different courses at this College may be separated under two headings—civil and military, the numbers in each case, as taken from the College rolls for 1905-06 and 1906-07, being as follows :— Small percentage of military students on college rolls.

Courses.	Civil.		Military.	
	1905-6.	1906-7.	1905-6.	1906-7.
Engineer classes (3 years)	68	68	*nil*	*nil*
Upper subordinate classes (2 years)	56	59	21	20
Lower subordinate classes (2 years)	125	122	*nil*	*nil*
Draftsman and computer (3 years)	11	13	*nil*	*nil*
Mechanical apprentice (3 years)	42	51	*nil*	*nil*
Industrial sections (4 years)	61	79	*nil*	*nil*
Technical classes (3 years)	..	33	..	*nil*
Military survey (9 months)	*nil*	*nil*	30	28
TOTALS	363	425	51	48
Percentage of military students	..	..	12%	10%

The military survey classes really form no integral part of the Civil Engineering College since they have their own military instructors and their nine months' course includes only very elementary mathematics and the rudiments of survey. It should, therefore, be possible to make provision for them at any sapper instruction depôt, where classes are held for pioneers and others. Excluding these classes, the percentage of military students is reduced by half, falling to less than 5 per cent. and consisting only of a small number of non-commissioned officers forming part of the Upper Subordinate classes. These undergo a two years' training in civil engineering in company with civilian students, and since no instruction is furnished or required in military engineering, they may for all practical purposes, be regarded as civilians.

The teaching staff as taken from the college calendar for 1905, excluding workshop foremen, numbers twenty-seven, of whom eleven are military members, being equivalent to 40 per cent. Three of these military members are employed solely with the military survey classes and, excluding them, the proportion of military members on the staff of this Civil Engineering College stands at 8 out of 24 or 33 per cent. Furthermore the percentage of military members appointed to the College Council is even higher than this, being 50 per cent., and this figure is unaltered by the exclusion of the military survey instructors who are unrepresented on the council. Disproportionate percentage of military members on college staff and Council.

The original scheme of organisation provided for three separate staffs :— Original organisation.

(*a*) The engineer class staff directly responsible to the Principal and employed in training civil engineers for the superior branch of the Public Works Department provincial service.

(*b*) The upper subordinate staff under a head master who is directly responsible to the Principal for the arrangement of the educational work of the upper subordinate classes in which students are trained for positions as overseer or sub-engineer in the Military Works Service or Public Works Department.

(*c*) The lower subordinate staff under a native head master, who is directly responsible to the Principal for the arrangement of the educational work of the lower subordinate classes in which students are trained for positions as sub-overseer in the Public Works Department.

Shortly after the reorganisation in 1897, the civilian professors then appointed were naturally required to exercise supervision over their own particular branches of the educational work throughout all the classes in the College, and to this end Staff Circular No. 13 was issued in 1899 and confirmed in 1902 by No. 31 as follows :— Subsequent alterations following Colvin Committee's enquiry.

"From November 1st, 1902, the work of the College will be divided into four sections. The complete control and arrangement of the tuition in the various sections of study, as detailed below, will devolve on the professor in charge of each section who will be directly responsible to the Principal. This responsibility will extend to every class in the College. The professors will be assisted by the instructors detailed below."

TIPPLE, E. F.—*contd.*

Furthermore, in 1901, a college council was constituted to promote "the free and unrestricted interchange of ideas between the Principal and the staff."

Changes more nominal than real.

Excellent as all these provisions are, a serious difficulty exists in carrying them out by reason of the military spirit pervading the institution.

This is shown in the case of the newly-formed technical classes since the many difficult educational questions connected with the successful inauguration of these classes were not referred to any meeting of the College Council until new class-rooms had been provided, actual courses of instruction commenced, and a fourth separate staff under the technical instructor created. It is thus evident that the change in organisation introduced by the above circulars is more nominal than real, and that responsibility is now divided in an undefined manner between principal, professors and head masters.

The military spirit also destroys any useful purpose intended to be served by the College Council. Fifty per cent. of the members are military officers, including subordinate officers, who are naturally diffident in regard to proposals put forward by a senior military officer, since any independent criticism is apt to be viewed as a breach of discipline.

It has been claimed for this institution that it should "control and stimulate teaching of all kinds in the United Provinces," but it must be admitted that its organisation and the general co-ordination of the different scientific branches of its educational work are lamentably defective when compared with those of any technical institution of recognised standing in England. At the Thomason College no authoritative educational check exists, either in the form of a properly constituted college council, board of studies, or faculty of engineering.

Educational efficiency.

Comparison with Coopers Hill (*vide* Appendix B).

In the early days of technical education, efficient methods had to be discovered and mistakes could not be entirely avoided; but now much valuable experience has been gained, both in England and other countries. It was neglect to profit by this experience which led to the downfall of Coopers Hill, and genuine effort is necessary to prevent a repetition of the disaster in the case of the Civil Engineering College at Roorkee.

Coopers Hill was under the management of a military principal, the professors being required simply to obey orders in connection with all matters concerning the general arrangement and control of the college work. The blue-books, published after the Coopers Hill enquiries of 1901 and 1904, contain many references to instances in which the efficiency of the educational course was adversely affected by this system of management. Thus it was shown that elementary and simple subjects, such as estimating and survey, received an altogether disproportionate amount of time; the mutual arrangement of courses of lectures, in accordance with the special qualifications of different members of the staff necessitated by the appointment of a new member, was vetoed for no given reasons; matters connected with laboratory equipment were not adequately discussed; and finally it was emphatically stated that "the success of the College in sending a number of good men to India was rather in spite of the system than anything else." It was affirmed that though the men at the top of the Coopers Hill lists were as good as those at other institutions, yet there was a considerably longer tail of inferior men. Moreover, it was also stated that "the absolute control of everything, even of the educational system of the College, was in the hands of the President...who had had no experience of educational matters. The result was that the College oscillated somewhat violently from one *régime* to another."

Educational inefficiency (*vide* Appendix C).

All these matters can be paralleled at Roorkee, and the inefficiency produced is necessarily greater since the work attempted is more complex. Three examples will suffice to support this statement:

(1) Thomason College with some 400 students on its rolls possesses no properly designed or adequate scientific laboratories and only one small lecture theatre. Moreover, no provision whatsoever is made for any engineering laboratory course such as is deemed necessary at recognised technical colleges in England.

(2) The original metal-testing plant procured in 1899 proved to be entirely unsuited to the requirements of the College and was condemned by expert opinion. It has been satisfactorily replaced, but its purchase involved a waste of over £800.

TIPPLE, E. F.—*contd.*

(3) The question of living accommodation for the students is an extremely important one in a small Indian station like Roorkee. In the case of the engineer classes, the living accommodation available has not been increased within the last fifteen years or more, though the number of such students has almost doubled. The consequence is that they are now crowded four and five together in small bungalows originally designed for two, and any serious private study in their own quarters is almost an impossibility. Furthermore, all military members of the staff are accommodated on the college estate, but the lower subordinate staff and the industrial class students live in the bazar in the native city and constitute a grave danger in cases of plague epidemic. Recently the lower subordinate head master died of plague, and the bazar was placed out of bounds, though the efficacy of this measure was much diminished for the above stated reason.

Necessity for a properly constituted board of studies.

These items clearly indicate the necessity which exists for the formation of a body of responsible educational officers at the College, from whom a consensus of opinion could be obtained regarding proposals for alterations and extensions affecting the College, and it should be definitely laid down that no such proposals can be entertained by Government until they have been laid before this body for consideration. This matter is of vital importance, and the system suggested forms a leading feature of all modern technical colleges of recognised standing in the educational world. Now that the work of Thomason College involves so many different courses of instruction, efficiency and economy demand the complete abandonment of the old system of separate staffs for each class; and in its place the proper co-ordination of the educational work in different scientific branches by which means only can the unnecessary duplication of elementary courses be avoided, a satisfactory system of supervision introduced and thorough efficiency ensured.

System advocated.

Such a properly co-ordinated system can be seen in working order at the City and Guilds of London Institutes' Central Technical College, South Kensington, where the work is divided into the following sections :—

(1) Mathematics.
(2) Civil and mechanical engineering.
(3) Physics and electro-technology.
(4) Chemistry and chemical-technology.

The professor in charge of each section is an educational officer, and is solely responsible for the branch of the work committed to his care. The instructional accommodation is so arranged that the work of each section is self-contained in one portion of the college building, by which means effective control by one officer is rendered possible.

A board of studies, consisting of the senior officers of the sections, meets periodically to arrange all important matters concerning the educational work as a whole. All matters of great moment are referred through the Dean to the Committee of Managers who control the funds, and their decision in due course is communicated to the Board of Studies by the Dean. The Board of Studies thus fulfils the functions of a faculty of engineering at a modern university.

The Dean or Principal, who is the recognised head of the College, is an educational officer in charge of one of the sections above mentioned, and is Chairman of the Board of Studies, but being a staff colleague, is merely one amongst equals and has no autocratic powers.

E. F. TIPPLE.

P. P. PHILLIPS.

APPENDIX I-A.

[Extract from "Pioneer," 8th February, 1907.]

TECHNICAL EDUCATION.

Roorkee Engineering College.

It was officially put on record by the Government of the United Provinces in their resolution on the educational report last year, that the extension of the Thomason Civil

TIPPLE, E. F.—*contd.*

Engineering College, Roorkee, calls for an expenditure of three and a half lakhs. Since then a certain portion of this money has been forthcoming in connection with the inauguration of the new technical classes at Roorkee, and more will probably follow in due course. A brief glance, therefore, at the growth of this institution and the general trend of its more recent developments may be not altogether without interest, since it is the leading engineering college in the country, and as such its educational efficiency is assuredly a matter of some moment.

The College has developed from what was originally in 1845 merely a training school for artisans employed in the construction of the Ganges Canal. In 1848 its educational work was divided into three departments corresponding to the engineer, upper subordinate and lower subordinate classes now in existence, and in this form it was largely extended in 1854 owing to proposals made by Mr. Thomason, who, in view of the large annual expenditure on public works, earnestly desired the establishment of an engineering school capable of supplying the needs of the Public Works Department. The demand in this country for men with a knowledge of engineering is a steadily increasing one; and in 1891 a committee on technical education was appointed, from which resulted a second great scheme for the reorganisation and extension of the Civil Engineering College at Roorkee. The proposals then put forward began to materialise in 1896-97, some ten years ago.

These two main schemes, the one in 1854, due to Mr. Thomason, and the other in 1896, due to Sir Auckland Colvin's committee, present one or two points of interest for the educationalist. In Mr. Thomason's time technical education was a thing almost unknown; it scarcely existed in the British Isles, where the earliest chairs of engineering, those connected with the universities of London, Dublin and Glasgow, had only been recently founded, and it was before the appointment of Professor Rankine to the last of these and the delivery of his inaugural address upon "The Harmony of Theory and Practice." Consequently no ordinary portion of praise is due to the able Lieutenant-Governor who foresaw the need for technical education so clearly, and urged its claims so strongly upon those responsible for the general administration of this country. His desire was to meet the need of India for industrial development by spreading technical education among her peoples, and the acceptance of his proposals was an admission of the necessity for increasing the facilities for such training in this country, and resulted in the establishment of an engineering college on the lines which at that time seemed most suitable.

Evolution of technical teaching.

In 1891, however, matters were very different; many engineering schools were in existence at home, and the Government of India itself had been fostering Coopers Hill for twenty years, while the great success attendant upon Germany's efforts to spread technical education was already well assured, and her educational methods justified. There was consequently ample material at hand to enable the committee to formulate a scheme for an engineering school organised upon modern lines, and it can easily be seen that their proposals were directed towards this end.

It is necessary here to consider for a moment the development of these schools at home, with regard to which it must be noticed that the training supplied in no way pretends to replace that acquired by actual engineering practice, upon which sole reliance was placed in the old days of apprenticeship. The engineering school training simply supplies something in addition to this latter by means of which the student will later be able to benefit more quickly and more fully from the experience which awaits him in the field of actual engineering practice. Thus he is trained in scientific habits of thought, his critical faculty is sharpened by the presentation of engineering problems for consideration and discussion, while his mental equipment for the solution of such problems is daily improved. It was upon the nature and value of this training that Professor Rankine dilated in his dissertation mentioned above, from which the following quotation is taken: "In theoretical science the question is—what are we to think?—and when a doubtful point arises, for the solution of which either experimental data are wanting or mathematical methods are not sufficiently advanced, it is the duty of philosophic minds not to dispute about the probability of conflicting suppositions, but to labour for the advancement of experimental inquiry and of mathematics, and await

patiently the time when these shall be adequate to solve the question. But in practical science the question is—what are we to do ?—a question which involves the necessity for the immediate adoption of some rule of working. In doubtful cases, we cannot allow our machines and our works of improvement to wait for the advancement of science; and if existing data are insufficient to give an exact solution of the question, that approximate solution must be acted upon which the best data attainable show to be the most probable."

This concisely explains the necessity for arranging higher technical educational work under different scientific branches in proper co-ordination with each other, and also the success which has attended the development of such work in connection with universities at home. A university and its technical school are mutually complementary, the work of each increases the demand for that of the other; and, furthermore, the management and development of such a school must be directed and guided by those actively engaged in scientific and educational work. The fate which has overtaken Coopers Hill, surrounded by prospering technical colleges properly organised, amply justifies this statement.

Sir Auckland Colvin's work.

The proposals regarding Thomason College, made by Sir Auckland Colvin's committee in 1891, all show that the above general truths were realised. The College was transferred from the Public Works Department to the Education Department, it was affiliated to Allahabad University, and its educational staff was strengthened on the purely scientific side, thus showing that the development was intended to take place along lines which have been successfully followed by similar institutions at home. Accordingly it is now most earnestly to be desired that the movement then started be continued in the same direction, and that no retrograde steps be made. The important part which a properly organised technical institution may play in industrial development should clearly be borne in mind when any question connected with extensions or changes at Roorkee is under consideration. Part of the function of a technical college is undoubtedly to indicate new industrial methods which may be turned to commercial advantage, but with this indication its duty ceases, and the actual introduction of departments for purely commercial work in connection with which educational results are not the first consideration would ultimately prejudice the future utility of the school. Such a step would lead necessarily to a confusion of interests, and there would be danger of the primary character of the college as an educational institution being overlooked in the developments of so-called paying departments. Higher technical education is costly to provide, but the establishment and proper development of technical institutions on broad scientific lines is an urgent need in this country, and in endeavouring to meet this need, it is most essential that the close relation between pure and applied science be kept clearly in mind. In England this is evidenced by the number of modern universities which have recently sprung into existence, whose most marked characteristics are their departments of applied science. It is, therefore, to be hoped that any further developments at Roorkee will continue along the lines already indicated by Sir Auckland Colvin's committee, and result in strengthening the ties between Thomason College and other Indian educational institutions.

APPENDIX I-B.

[*Extract from "Indian Daily Telegraph," 1st February 1905.*]

THE LESSON OF COOPERS HILL.

The recent meeting of the Allahabad University Senate and the discussion on the proposal to abolish the faculty of engineering, naturally directs attention to the Thomason Civil Engineering College at Roorkee. The cost of this College forms a large item in the educational expenses of the Government of these provinces and this fact, combined with the fate which has overtaken the sister college at Coopers Hill, renders it important that the position of the Thomason College as an educational institution should receive very careful consideration. Consequently it is not out of place to examine

TIPPLE, E. F.—*contd.*

in some detail the causes which led to the failure of Coopers Hill to maintain its place among the engineering schools of Great Britain, and then by comparison to see whether sufficient precautions are being taken to guard against similar evils making their appearance at Roorkee.

At its foundation Coopers Hill had practically a clear field for the education of engineers, since it is admitted that no rival school was then in existence. Its teaching staff contained men who have made reputations as experts in the education of engineers, to prove which it is only necessary to call to mind the names of Professors Unwin, Minchin and Hearson. The great need for engineering schools in England at that time has been amply shown by the success of the later schools founded by the City and Guilds of London, the universities of Cambridge and Victoria, and many other educational bodies at home. Yet, despite these initial advantages, Coopers Hill failed to establish itself on a sound basis, and has been completely outstripped in the professional race by these other institutions which came into existence at later dates. Every allowance may be made for such success as did attend the efforts at Coopers Hill; some sixteen hundred students passed through the college, and it is only natural that many of these have since become well known and eminent engineers. The true measure of its educational efficiency, however, can only be determined by comparison with rival institutions, and from the evidence given at the last Commission, it cannot be doubted that the market value of the Coopers Hill diploma was much below that existing in the cases of other engineering schools. Thus Professor Hudson Beare stated that the technical examinations at Coopers Hill were not so stiff as those at Edinburgh University, and that although the men at the top of the Coopers Hill lists were as good as the top men at other institutions, yet there was a considerably longer tail of inferior men distinctly below the average. Consequently it must be admitted that Professor Minchin asserted with some truth that "the success of the college in sending a number of good men to India was rather in spite of the system than anything else." Under such circumstances the college as an educational institution must be regarded as a failure, and although it turned out a few good men every year for the guaranteed appointments, its educational efficiency has been extremely small.

In endeavouring to discover the causes of the disaster, the capabilities of the teaching staff is naturally the first point to be regarded. Here we meet at once with the names of men well-known in the educational world at home and whose abilities are held in high esteem by many recognised experts, as was very clearly shown at the time of the compulsory retirement of several members of the staff shortly after Colonel Ottley's appointment as president. Furthermore, Professor Unwin, who was on the staff for thirteen years, has been very largely responsible for the success of the technical colleges of the City and Guilds of London which he joined on leaving Coopers Hill, and it is consequently impossible to blame the teaching staff for the failure of the college to hold its own. It is when we examine the system of management that we discover the most startling diversity between the method at Coopers Hill and that adopted at the colleges of universities and other educational bodies. At Coopers Hill the president has always been an officer devoid of any previous training or experience in educational matters such as would be regarded as quite indispensable for the proper discharge of his duties at any other educational institution. Frequently he has been an officer who has taken no actual part in the teaching work of the college, and concerning this system it was stated before the Commission that "until eighteen months ago . . . the absolute control of everything—even of the educational system of the college—was in the hands of the president, and the presidents were men who had had no experience of educational matters. The result was that the college oscillated somewhat violently from one *régime* to another—one president thought one thing important, and another thought a very different thing was important, and so on." Under such circumstances it is not surprising that the college course lacked that thorough co-ordination between its different branches which is so essential a factor for success in any educational scheme. Ill-matured plans for changes and extensions could be forwarded to the Secretary of State for sanction without being subjected to careful scrutiny by experts capable of judging each separate item in its proper relation to the whole. The waste of time, energy and money produced by such conditions, it is impossible to estimate, and the failure of the college to maintain its position was a natural result.

TIPPLE, E. F.—*contd.*

If this system of management be compared with that adopted at the City and Guilds technical colleges, its deficiencies become still more strikingly evident. The system in vogue at these colleges has been evolved by Sir Philip Magnus, Professors Unwin, Perry, Armstrong, Ayrton and others, being an adaptation of the methods followed in the great German polytechnics which have done so much for the technical education of that country. Under this system the principal or president is a senior member of the teaching staff in charge of one of the three or four branches under which the college course is grouped, one professor with assistants being responsible for each branch. The professors form the college board or senate of which the principal is president, and this board is responsible for the educational system as a whole. All schemes for extensions or alterations must be passed by this board before they can be carried into effect. Such schemes, if passed, are then laid before the committee of management by the principal as the representative of the educational staff, and the committee, if the funds are available, sanction the expenditure. This committee of management is composed of the trustees and business men in charge of the college finances, and is represented in the case of Coopers Hill by the Secretary of State. Under this system it is essential that the principal should be an educationalist, and that sanction should not be given to any expenditure for extensions or alterations until the plans for these have been duly passed by the educational board, by which means alone their educational efficiency can be guaranteed. In the case of Coopers Hill, it is evident that each president has been in reality little more than a superintendent of office work or registrar posing as an educational expert, and that in relation to the members of the teaching staff he has not been *primus inter pares* as would be the case at other educational institutions, but he alone has been held responsible for the whole of the college educational work. Consequently each successive president introduced just such changes and advocated just such developments as seemed desirable in his own private opinion, this being made clear in the evidence before the final commission.

Turning attention now to Roorkee, it is certain that the post of principal of Thomason College is in many points very similar to that of president of Coopers Hill, but in judging the worth of any precautions taken to prevent a repetition of the Coopers Hill catastrophe, considerable difficulty is at once experienced by reason of the scanty information of any real educational value which is available for the purpose. The annual report written by the principal is of very doubtful value; it may or may not contain the professional opinions of the teaching staff; the fact seems always carefully concealed. There is certainly a college council consisting of these members of the staff but, from the mention made of it in the reports, it meets at very irregular intervals and deals usually with matters of only minor importance. Furthermore, from these same reports, we gather that there are serious grounds for believing that the system of violent oscillation experienced at Coopers Hill is being sympathetically reproduced at Roorkee. Thus, in the report written by Colonel Clibborn in the calendar for 1900, we read in connection with the engineer classes that their revised course "has so far proved satisfactory, but will have to bear the test of a couple more years' actual practice before being finally confirmed." In the calendar for 1902, we read a condemnation of this time-table and system of fortnightly examinations which is stated to have proved "most unsatisfactory!" Thus the system which to one principal appeared satisfactory is condemned by his successor, newly arrived at the college, in the first report which he writes! We consequently feel no surprise when we read in the next report that the new system has so far "run smoothly and proved eminently satisfactory!" From the reports by Colonel Clibborn for 1900 and 1901, we learn that the college has been furnished with a 100-ton metal-testing plant by Messrs. Armstrong, Whitworth and Company, which is a duplicate of one in Woolwich Arsenal. In the report for 1904 by Major Atkinson, we read that "the installation of the Buckton's metal-testing machine will considerably increase the range of useful work possible." The cost of these machines cannot be less than £500 each, and we wonder when we shall read of the approaching installation of a third. We are justified, we think, in regarding this system of management as conducive to considerable oscillation and productive of much waste of valuable time and money. We note also that the college staff contains but one demonstrator, though much space is given, in the reports, to accounts of physical, chemical and electrical laboratories, while some reference is made

TIPPLE, E. F.—*contd.*

to a mechanical laboratory. We cannot help feeling that we should very much like to know the precise educational value of the work done in these laboratories and how the solitary demonstrator fills in his time! Much parade has been, and is still being, made of the developments at Roorkee consequent upon the late reorganisation due to Colonel Clibborn; but it must be borne in mind that bricks and mortar, properly and artistically arranged, make a great show; and from an educational point of view the annual reports of this institution are by no means hopeful reading to those who have real educational efficiency at heart and can appreciate the lesson of Coopers Hill.

APPENDIX I-C.

[*Extract from the minutes of the Allahabad University senate meeting, held on the 14th January, 1905.*]

The Vice-Chancellor, the Hon'ble Sir George Edward Knox, Judge of the High Court, United Provinces, India, in the chair.

The Vice-Chancellor, raising the question of "the advisability of the abolition of the faculty of engineering," stated:—"As the Senate stands constituted at present, it practically means that the faculty of engineering ceases to exist."

It was then pointed out that—"There has never been a meeting of the faculty, not because the members did not take an interest in engineering, but because the College of Engineering at Roorkee is not what such an institution should be. Roorkee College, as an educational institution, is very far from being satisfactory, and the responsibility for this rests upon the Government. It is mainly officered by Royal Engineers who have had no special training for their work. Until this College is thoroughly reformed, and its work put upon a sound educational basis, we, as a university, ought to refuse to give it recognition and hence to decline to establish a faculty of engineering."

APPENDIX II.

MINUTE ON TECHNICAL EDUCATION IN THE UNITED PROVINCES, 1909.

(*1*) *Development.*

Early developments.

It is possible to trace in India the existence of an official recognition of the need for technical education so far back as the well-known educational despatch of 1854, and the development of this branch of education in England has been to some extent reflected in Indian educational policy from that date.

City and Guilds Institute.

In England the chief success of technical education in connection with industrial manufactures, dates from the establishment of the City and Guilds of London Institute in 1878 and the opening of the Institute's technical colleges in 1881-3, to which early official attention in India was directed by the Madras Technical Scheme of 1885. Up to the present time, however, nothing of a corresponding nature has been started in the United Provinces, and the chief institution concerned with higher technical education has been the Engineering College at Roorkee.

Thomason College.

The Thomason College, Roorkee, is the oldest of the Indian engineering colleges, dating from 1847, and it has been the most successful in training men for employment in the Public Works Department. Several eminent engineers have received their education at this college, which has always held a leading position in connection with technical education in India.

In 1890 Sir Auckland Colvin appointed a commission to consider the developments required in this branch of education, and in an exhaustive minute, dealing with the subject and embodying his instructions, drew attention to the fact that—

Colvin Committee, 1891.

> "there exists at Roorkee a Government engineering college and workshops and it seems probable that we have here, subject to such further developments as may be found necessary, the nucleus of the instruction necessary."

TIPPLE, E. F.—*contd.*

In his report upon the findings of this commission, he wrote— Its findings.

"The recommendations of the committee may be divided into two distinct classes: first, those which it is possible to carry into effect with little or brief delay; and second, those which are in great measure necessary to the full carrying out of the first category, and partly independent: but which all admit of being postponed for more mature consideration. The recommendations which fall into the first of these two classes are first, the reorganisation of the Thomason Engineering College; secondly, the institution by the Education Department or by the University, of a school final examination for the modern classes of high schools; thirdly, the establishment of industrial schools at Roorkee, Lucknow or Allahabad."

"The recommendations which fall under the second category are these: first, the establishment of a school of art at Lucknow; second, the establishment of an agricultural school at Cawnpore; third, the establishment of a teachers' central training college at Allahabad."

As a result of these recommendations, the status of the Thomason College was materially changed and a thorough reorganisation of the institution was commenced. The College, which had previously been solely concerned with the recruitment of the Public Works Department under which it was managed, was transferred from that branch of Government service to the Education Department, with a view to extending its sphere of usefulness in connection with the higher branches of technical education generally. The teaching staff, particularly in its higher ranks, was considerably augmented; increased instructional accommodation was provided; well equipped workshops were erected, and extra classes inaugurated. Furthermore, industrial schools were started in various centres, notably in Lucknow, and it was arranged that these should be periodically inspected and reported upon by the principal of Thomason College. These material changes, which first began to take effect in 1896, were continued by successive Lieutenant-Governors, until it was authoritatively stated by the Government of India, when sanctioning a further increase of educational expenditure at Roorkee, that the College was— Scheme to produce a co-ordinated system of technical education.

"developing into an industrial and technical institute which will control and stimulate teaching of all kinds in the United Provinces."

The whole history of this later period of the development of Thomason College clearly shows that it was intended to establish at Roorkee, upon a broad and thoroughly scientific basis, an educational centre for higher technological work, which should be in touch with industrial schools for low-grade work suitably scattered throughout the provinces. Moreover, this intention was supported by the local Government under successive administrations, with the approval of the Government of India and the sanction of the Secretary of State. Thomason College and industrial schools.

The success of these intentions was dependent upon an efficient educational organisation coming into existence at Roorkee, whence the required stimulative influence was to be exerted on the centres for low-grade work distributed through the provinces; by this means a suitable field of recruitment for the higher institution would have been produced and a complete system of technical education established. Such an organisation would have ensured the college and the schools for the lower branches of technical instruction developing *pari passu*, the grades of technical education being properly differentiated and the whole scheme forming an integral part of the general educational system of the provinces, with which it was intended to join through the primary schools and the modern side of the high schools. The failure to achieve these desirable results has been entirely due to the inadequate attention given to educational details. Importance of Thomason College in connection with this scheme.

(2) Maladministration.

The successful development of the industrial schools depended largely upon the attitude adopted by the authorities at Thomason College, by whom these schools were periodically inspected and reported upon to Government.

The continued unsatisfactory state of these schools led to the appointment of a committee in December, 1901, to examine the question of their proper development, the president of this committee being the principal of Thomason College. This committee Unsatisfactory condition of

TIPPLE. E. F.—*contd.*

industrial schools.

collected much valuable information concerning the need for these schools, their existing organisations, etc., but the educational inferences drawn from these, and the methods suggested for the improvement of the schools were completely discredited by the Government of India in its resolution dated 14th January, 1904. It is there shown that in the opinion of the Government of India the Committee failed "to distinguish sufficiently between a school and a commercial undertaking," and in regard to the main proposal for improvement, it is stated that—

Committee of Enquiry, 1901.

Its findings discredited by Government of India, 1904.

> "The Government of India are unable to find in the argument advanced by the committee, in the example of other countries, in the opinions of expert witnesses or in practical experience in India, any reasons which would justify them in sweeping away the present industrial schools and substituting the system* described in this report."

Its reflection on Thomason College.

The Government of India very clearly show that overwhelming educational authority of recognised standing was directly opposed to the more important findings of the Committee presided over by Colonel Clibborn, Principal of Thomason College, 1892-1902. Such facts indicate that the educational organisation at Roorkee during this critical period was in charge of an officer quite unequal to the larger duties placed upon him under the Colvin Scheme of 1896.

Colvin scheme frustrated (*vide* Appendix A).

A scrutiny of the college reports and records shows that the only extensions of the educational work actually started at Thomason College, during 1896-1906 were distinctly of a low grade, and consequently the college instead of becoming, as was intended, an efficient director of industrial schools, became, in actual fact, only their rival, a state of things never contemplated under the Colvin Scheme. The management of Thomason College alone can be responsible for allowing educational affairs of such importance to have drifted into such a state of chaos during ten years. This has been solely due to an utter disregard of genuine educational interests.

Failure due to inadequate attention being given to educational details.

The management of the college under the Colvin Scheme was vested in a committee consisting of the Chief Engineer to Government, United Provinces (Buildings and Roads), the Director of Public Instruction, the Manager of the Oudh and Rohilkhand Railway, the Locomotive Superintendent, Oudh and Rohilkhand Railway, and the Principal. It must be noticed that there are only two educational officers on this list, and that they are both administrative officials, consequently educational interests are very inadequately safeguarded under this system of management.

Partial recognition of this by Government.

This fact was recognised by the local Government in 1901 when they appointed a college council to be associated with the principal "in regulating the courses of studies, the selection of text-books and other matters which cannot be conveniently and effectively dealt with by the Committee of Management." The formation of this Council indicated Government's desire that effective control of educational details of the college work should be placed in the hands of officers actually in touch with such work; but the good intentions of Government were frustrated through the defective constitution accorded to the Council. Three out of the five original members were only subordinate officials; important branches of the educational work were unrepresented; no genuine attempt was made to safeguard educational interests, and the power of veto bestowed upon the principal rendered the Council useless even for the proper co-ordination of the college educational work.

Government's remedy inadequate.

Protest by Allahabad University.

The evil effects of this system were severely criticised in 1905 when the Allahabad University abolished their Faculty of Engineering, the reason for the abolition being emphatically stated before the Senate in the following words:—

> "Because the College of Engineering at Roorkee is not what such an institution should be. Roorkee College, as an educational institution, is very far from being satisfactory, and the responsibility for this rests upon the Government. It is mainly officered by Royal Engineers who have had no special training for their work. Until this college is thoroughly reformed and its work put upon a sound educational basis, we, as a university, ought to refuse to give it recognition and hence to decline to establish a faculty of engineering."

* The report especially urged the introduction of the Casanova system, which, it should be noted, was primarily intended for criminal populations near Naples.

It follows from all this that the Colvin scheme for the efficient reorganisation of Thomason College and the development of industrial schools has been rendered abortive; and that the increase of expenditure incurred at Roorkee has up to date been educationally unremunerative, solely by reason of the ineffectual precautions taken to secure efficient educational control of the details connected with the complete formulation of the actual scheme. Summary of situation.

(3) Future outlook.

A consideration of the above facts shows that before the formation of the College Council in 1901, the educational experience gained by responsible members of the teaching staff at Roorkee was a wasted asset even so far as the college organisation itself was concerned. Furthermore, that with the institution of a council, matters were but slightly improved for internal administration, and that its weak constitution, combined with the power of veto, entirely prevented this same asset being utilised in connection with the problems of technical education generally. Educational experience a wasted asset.

This situation now forms a serious menace to the future success of any general system of education aiming at the industrial development of the provinces as a whole. The Lieutenant-Governor, in his convocation address at Allahabad on November 14th, 1908, said :— Government's acknowledgment of Allahabad protest and of its influence on Nain Tal Conference, 1907.

> "I wish to see the University extend its influence over other forms of education with which it has now no concern. Holding this view, I think it is a pity that the Faculty of Engineering has been abolished, and that the University does not extend its help to the Thomason College at Roorkee. The result of this indifference was that at the sittings of the Industrial Conference at Naini Tal last year, there was a very pronounced feeling of opposition to the suggestion that it would be desirable to secure the affiliation of the technological institute, when established, to the University. I believe that a somewhat similar feeling has led to the determination of the agricultural college to be a thing apart from the University."

Such remarks as these indicate the existence, in the United Provinces, of a highly dangerous state of affairs in connection with educational administration, more particularly in view of the observations made in the Allahabad Senate at the time of the abolition of the Faculty of Engineering. These have been already quoted and clearly show that the abolition in question was in effect a protest by educationalists against the state of affairs existing at Roorkee, and that the University, far from showing indifference, took the only course possible when endeavouring to rouse the local Government to a proper sense of its own responsibility in the matter. Furthermore, the position indicates that the breach between the University and technical education is widening instead of narrowing and that this is likely to continue until the Thomason College be placed upon a thoroughly sound educational basis. Failure to effect this is already responsible, through the maladministration of the Colvin scheme, for ten years' loss of time in the development of industrial schools; further continuation of the existing state of affairs forms a serious indictment against Indian educational policy at the present time. University protest misunderstood. Gravity of situation a serious indictment against Indian Educational policy (*vide* Appendix B).

The Naini Tal conference of 1907 has resuscitated the Colvin proposals for industrial schools (*vide* Government resolution on Education in the United Provinces, dated 7th January, 1908, Sir John Hewett's budget speech, 1908, and his convocation address at Allahabad on November 14th, 1908, in which allusion is made to industrial schools, experimental weaving schools, a school of design and a school of carpentry). There is consequently every reason to suppose that these proposals, forming part of a continuous policy, are educationally sound, but as already indicated, their successful issue is dependent upon an efficient educational organisation coming into existence at Roorkee. The resolution of the Government of India, dated January 14th, 1904, clearly shows that "the opinions of expert witnesses" have in the past been ignored by the authorities at Roorkee with disastrous results; a further continuance of this policy will now endanger the whole future of technical education, and indications are not wanting to show that this danger is a very real and imminent one. Naini Tal Conference, 1907, resuscitates Colvin proposals for industrial schools. A return to the position of 1896.

The proceedings of the Naini Tal conference having been made strictly confidential, it is impossible to subject them to criticism in detail, but the Government Resolution on Proceedings of Naini Tal

TIPPLE, E. F.—*contd.*

Conference confidential.

Education in the United Provinces, dated January 7th, 1908, states that within the next quinquennium the Lieutenant-Governor—

> "hopes to see the Thomason College developed into a technological institute for engineering purposes and a technological institute for chemical matters established at Cawnpore."

Indications of its proposals in relation to higher technical education.

It is to be presumed that the separation, thus advocated, of two intimately connected branches of technical education is based upon the findings of the Naini Tal conference. The proposal, however, to locate institutes for engineering and chemical technology respectively at Roorkee and Cawnpore, two centres some four hundred miles apart, is so directly contrary to the successful example of other countries and so diametrically opposed to the results of past educational experience in India, that all interested in the future of technical education in this country must gravely question the wisdom of such a proceeding. This experience has clearly shown that, in India, the isolation of the scattered colleges of the universities has proved a serious obstacle to the maintenance of satisfactory standards for higher educational work; also Dr. Morris Travers, in his report on the Institute of Science, is strongly opposed to the policy of founding isolated institutions of special branches of applied science.

Results discouraging in the light of past educational experience.

The intimate connection existing between engineering and chemical technology may be seen in the working of the City and Guilds of London Colleges, or the engineering departments of modern universities, where students of engineering and industrial chemistry share many courses of instruction during the earlier period of their training. Work in engineering and chemistry is arranged for both classes of students, so that it is impossible for anyone familiar with the educational details concerned, to realise how the separation suggested can be logically justified. The development of a chemical side at Roorkee has already been recognised as necessary and has been placed in charge of an officer specially appointed by the Secretary of State in 1904; with the foundation of a chemical institute at Cawnpore, the necessity for an engineering side there will become equally apparent. Thus, instead of being two connected branches, Roorkee and Cawnpore will become two distinct and rival centres, and in view of the general level of scientific educational attainment at present existing in India, such rivalry cannot prove stimulative in its action. At least one centre will be degraded and the cause of higher technical education will correspondingly suffer.

Need for caution.

At the present juncture it is imperative that technical education should be adequately safeguarded from those dangers which have proved so disastrous in the past to higher education in India, and this can only be secured by paying most careful attention to the educational details of any proposals formulated. Neglect to do this at Roorkee has led to a series of failures in connection with the industrial classes at Thomason College extending over a period of ten years; further neglect will now lead to incalculable harm in the future.

(4) Reforms needed.

Present position summarised.

The preceding sections of this minute deal with the confusion which has arisen in connection with the development of technical education in the United Provinces; they show that this state of confusion is directly due to the unsatisfactory educational condition of the leading technical institution of the country. The inefficient educational organisation at Thomason College has led to a want of proper discrimination between high and low grade work; it has prevented the development of efficient industrial schools; it has nullified the findings of the Colvin Committee, which were educationally sound, and it is producing a widening estrangement between the University and technical institutions in these provinces.

Primary importance of reforms at Thomason College. System advocated.

It now remains to indicate methods by which these evils may be remedied and future progress rendered possible. For this purpose the primary reform necessary is the placing of Thomason College upon a sound educational basis, since by this means alone can a proper co-operation between the University and technical institutions be assured.

During the last ten years the educational work at Roorkee has been gradually arranged under five main branches; applied mathematics; civil engineering; electrical engineering; mechanical engineering; industrial chemistry. In order to ensure a proper co-

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ordination between these branches and adequately to safeguard future developments, the following reforms are now imperative :—

(*a*) Each of these five branches should be placed under a properly qualified professor regularly appointed to the Indian educational service.
(*b*) These five professors should form a board of studies authoritatively constituted and officially recognised by Government.
(*c*) All matters of moment affecting the college educational work should be laid, with due notice, before this Board for consideration.
(*d*) Minutes of the proceedings should be carefully recorded by the member appointed Secretary and should be filed in the offices of the college and of the Director of Public Instruction for information and reference.

By these means further neglect of important educational details of any schemes for the improvement of technical education in the United Provinces could be avoided ; due consideration of such details by educational authorities, familiar with them, would be assured ; the true position of the college in the general educational system of the provinces could be definitely fixed, and the present confused state of technical education could at last be ended.

E. F. TIPPLE.

P. P. PHILLIPS.

APPENDIX II-A.

[*Extract from "The Pioneer," 12th February, 1908.*]

ROORKEE COLLEGE AND TECHNICAL EDUCATION.

The future of the Thomason College, Roorkee, at the present juncture is a matter worthy of careful consideration from all those who are genuinely interested in the establishment of a sound system of technical education in this country. The development of the college from a mere training school for artisans about 1845 up to the time of the Colvin Committee in 1891 is too well known to need repetition, and so far as the future is concerned it is the trend of later events that is of primary importance. About 1896 the college was transferred from the Public Works Department to the Education Department, on the recommendations made in the Colvin reports, and since then successive Governments have been continually entertaining large and expensive schemes for the development of the educational work of this institution. The above-named reports clearly indicated that the college was recognised as suitable for development into an institute for higher technical education, and in August, 1903, it was definitely stated by the Government of India, as a reason for sanctioning a large increase of expenditure at Roorkee, that the Thomason College "is developing into an industrial and technical institute which will control and stimulate teaching of all kinds in the United Provinces." It is of some interest, therefore, to note how this development has really been conducted in recent years, more especially in view of the important bearing which this must have upon any general scheme of technical education devised for the United Provinces.

Previous to 1896, Thomason College was concerned only with the training of public works engineers and subordinates, together with certain military survey classes. Under Colonel Clibborn the courses for the engineer classes were improved at some considerable expense, but despite costly installations of machinery these courses do not even now contain any engineering laboratory work such as is considered to be of fundamental importance and absolutely indispensable at all high grade engineering colleges in Europe. Moreover, the actual extension of the educational work beyond its previous limits was effected in 1896 by the introduction of industrial and mechanical apprentice classes which were intended to provide for the education of selected students from the provincial industrial schools. This evidently was an attempt to form an educational ladder by means of which capable students might climb from low grade technical schools to a high grade technical institute. Such a scheme was admirable in its conception, but for success it

TIPPLE, E. F.—*contd.*

was dependent upon the establishment of efficient industrial schools, while this itself was further dependent upon a proper recognition of the functions of such schools and of their relation to a higher grade institute. The ideas of the late principal of Thomason College upon these important educational matters have been already sufficiently discredited in the Government of India's resolution of January, 1904, upon the report of the Committee on Industrial Schools over which Colonel Clibborn presided, and consequently it is not surprising to find that the above classes have never hitherto justified their existence. That this is so is evident from the college reports, while the courses of study and the time-tables show that these classes are all occupied with technical work of an extremely elementary grade, and that consequently, so far as they are concerned, the Thomason College is merely a low grade technical school, despite its expensive machinery and costly equipment.

A further development was introduced in 1906 when the technical classes were started, of which but few details are at present available. The entrance qualifications, however, are considerably below the engineer class standard, while the actual courses can scarcely be differentiated from those of the mechanical apprentice class, and consequently they are not likely to prove more successful than their predecessors in spreading really sound technical education. It is thus clear that the only new classes introduced at Thomason college since 1896 are such as should properly belong to technical schools, while the engineer classes themselves do not derive the full benefit which they should receive from the increased expenditure which has been incurred. At a technical school great attention must be paid to workshop practice, the scientific work done is necessarily elementary, and the technical instruction given should be largely of a popular kind. At a technical college, on the other hand, workshop practice, though still necessary, is relatively of less importance, the engineering laboratory taking precedence, while the scientific and technical work must necessarily be advanced and of a highly specialised character. Consequently, although much money has been spent and is being spent at Roorkee upon machinery, laboratories and workshops, yet the actual educational development, by which alone such expenditure can be justified, would be much more accurately described as a degradation of the educational work of an engineering college.

The whole history of this later period of the educational activity of Thomason College indicates the urgent need which exists for the establishment of efficient industrial schools for low grade technical training at various centres throughout the provinces. By this means alone can a suitable field of recruitment be obtained from which to draw students capable of benefiting from the courses provided at a technical college. The only higher technical education for which there is a recognised demand at present is that which admits to Government service, and in the light of past experience in India this is a danger against which adequate provision must be made by building up a system of technical education upon a sure foundation. Attention is now being paid to the proper co-ordination of primary and secondary education in the schools of these provinces, and if this co-ordination is to be complete it must include a suitable arrangement of technical schools where adequate provision can be made for full-day pupils and half-timers. Money spent now upon the furtherance of such schemes will be money well spent in the ultimate development of higher technical education, but until a sound foundation has been laid by the establishment of a number of efficient industrial schools for low grade technical training, no satisfactory system of higher technical education can be reared. Clearer proof of this cannot be afforded than that which is obtainable from a scrutiny of the Thomason College developments, and the results which they have achieved during the last decade of that institute's history.

APPENDIX II-B.

[*Extract from "The Pioneer," 28th November, 1908.*]

SCIENTIFIC RESEARCH AND INDUSTRIAL DEVELOPMENT.

It is safe to say that chemical science in any, but its purely educational, aspect is practically untried in Upper India. Notable exceptions are the sugar works, whose rise of recent years in and around the United Provinces is such a hopeful sign. These, in many

TIPPLE, E. F.—*contd.*

cases employ chemists as a part of their regular factory staff, but beyond this a systematic chemical investigation of the latent resources of the United Provinces has still to be undertaken. It is surprising that it should be so in a country with an almost inexhaustible supply of the raw material for many technological processes at the best only superficially investigated. That there is no doubt of it is apparent to all who have followed the proceedings of the Industrial Conference that met at Naini Tal in August, 1907, under the presidency of the Lieutenant-Governor, and Sir John Hewett's subsequent speeches on the industrial situation that have from time to time appeared in the press. There are welcome signs that efforts will not be wanting on the part of Government to provide funds; and all well-wishers of India will hope that the response by the country may be vigorous and sincere when a workable scheme of technical instruction and research is put forward.

But the best will in the world cannot save from failure any scheme initiated without a thorough grasp of the methods used to-day in investigating chemical industrial problems and of the value of research in this connection. The chemist's work in relation to industrial development is so imperfectly understood both by the official and public mind of India that it is likely that some at least of the schemes proposed will not bear the impress of wisdom. Mistakes there are bound to be, but it is by no means necessary that these should be of a fundamental nature at the very outset, if advantage is taken of the experience of other countries and a sound critical judgment exercised. It is a point of importance to recognise at once the proper value of research as a national asset. The investigation of many leading questions in this field cannot, under present conditions, be left to private enterprise, and it is the duty of the Government, once the importance of the subject has been recognised, to set aside a certain sum of the public money, not an extravagant one, for this purpose. Money thus invested may not yield a return to-day or even to-morrow, but that it will come back with interest some day is as certain as the rising of the sun.

A classical example of the ultimate value of research is provided, unhappily for this country, by the circumstances that led up to the threatened extinction of natural indigo by its synthetic rival. The story is an interesting one. Thirty years ago a German chemist, Dr. Adolf von Baeyer, working quietly in his laboratory at Munich, succeeded in preparing a few grammes of indigotin, the colouring matter of natural indigo. The materials he used were at that time chemical curiosities rather than merchantable commodities, and it was a matter of conjecture if these could be produced cheaply enough to enable synthetic indigo to be put upon the market. The national value of Baeyer's discovery was, however, at once recognised, and an army of chemists set to work to investigate the question from the point of view of the raw materials at Germany's disposal. The sad plight of the Bihar industry is a direct result of their work. Even now the lesson driven home by so many hard knocks is still unlearnt, and the planters, who have everything at stake, are inclined to accept advice which condones their past negligence of the scientific side of their industry rather than that, less flattering it is true, which points the way to substantial improvement. Again the prominent position suddenly attained by Java in the sugar trade can be traced almost directly to the intelligent use by the Dutch of the resources of chemical and biological science; and the employment of such workers as Kobus and Prinsen Geerlegs in the interests of the industry. It must not be inferred that the panacea to fly to for industrial pre-eminence is the importation of experts pell-mell into the country. The bone-button trade is *in extremis*; in a state of panic a button expert is sent for by the next mail, and if the button trade does not come up to expectation at the end of two years, he is sent home again, and science is said to be of no use. It is not suggested that anything so exaggerated could happen in India, but a modified form of the fallacy is possible and needs carefully guarding against.

It will be well for those who have the interests of technological development at heart to remember that the most essential part of it, applied research, only thrives in its own atmosphere, and any scheme will lack an essential feature of success that does not provide for first-class scientific control directly under Government. The day of the well-intentioned amateur is over in India. Specialisation has reached a point where it is no longer possible for a man to turn his attention at a moment's notice from military command

or the management of an indigo concern (to take hypothetical cases) to the control of scientific workers and technical instruction. Industrial problems requiring scientific solution must be approached in a scientific attitude of mind, and those responsible for advising Government, will do well to see that their first effort is to secure this.

APPENDIX III.

MINUTE ON INDIAN EDUCATION WITH SPECIAL REFERENCE TO THE REORGANISATION OF THE INDIAN EDUCATION DEPARTMENT, 1913.

Preface.

This minute is concerned solely with recent educational developments in India and their past history. In every case full reference has been given for the statements made. The subject appears to be of sufficient consequence to deserve consideration solely on its merits, and it is thought that the introduction of names may tend to divert attention from the highly important question of *what is right* to the relatively insignificant question of *who is right*? For this reason the minute is issued anonymously.

Historical Survey.

In March, 1904, a resolution was issued by the Governor-General in Council, giving a summary of facts and figures concerning the history and growth of education in India.(1) Therein it is stated that—

Education on western lines introduced in India in 1854. Previous tendency of British administration to leave traditional methods of instruction undisturbed. Inherent disadvantages of such methods.

> "Education in India, in the modern sense of the word, may be said to date from the year 1854, when the Court of Directors of the Old East India Company, in a memorable dispatch, definitely accepted the systematic promotion of general education as one of the duties of the State, and emphatically declared that the type of education which they desired to see extended in India was that which had for its object the diffusion of the arts, science, philosophy, and literature of Europe; in short, European knowledge. . . . . The first instinct of British rulers was to leave the traditional modes of instruction existing in the country undisturbed and to continue the support which they had been accustomed to receive from native rulers."

To this end provision had been made, so far back as 1813, for giving regular assistance from public funds. These traditional modes of instruction, however—

> "Mohammedan no less than Hindu, assigned a disproportionate importance to the training of the memory, and sought to develope the critical faculties of the mind mainly by exercising their pupils in metaphysical refinements."

Nature of impulse which produced the Educational despatch of 1854. Foundations of existing Educational Department laid. Character and development of its work. Comparative statistics

The impulse towards reform which resulted in the despatch of 1854 came from two directions: the need for public servants with a knowledge of the English language, and secondly, the missionary influence exercised in favour of both English and vernacular education.(2) In accordance with the policy outlined in this despatch, a department of Public Instruction was subsequently created; universities were founded in the presidency towns; training schools for teachers were established; existing Government educational institutions were increased, and a system of grants-in-aid was introduced to encourage local effort.

The policy thus laid down in 1854 was re-affirmed in 1859, when the administration was transferred to the Crown.(3)

The following figures serve to indicate the progress made upon the lines indicated. The universities of Calcutta, Madras, and Bombay were incorporated in 1857, and those

(1) "Indian Educational Policy," published in book form in 1904.
(2) *Ibid*, para. 4.
(3) *Ibid*, para. 6.

of the Punjab and Allahabad in 1882 and 1887. The growth of schools and colleges proceeded most rapidly between 1871 and 1882, and by the end of this latter year there were 2¼ millions of pupils under instruction. According to the last available Quinquennial Report on Education in India, 1902—7,(1) there were in 1902, 3,204,336 pupils in 97,854 primary schools, and 622,768 scholars in 5,493 secondary schools, while the number of colleges was 191 with 23,009 students. Thus including special schools, technical and industrial schools, schools of art, normal schools for teachers, etc., the total number of schools and colleges for public instruction amounted to 104,622 with 3,886,493 pupils, and if private institutions be added, the total number of scholars known to the Education Department reached 4,521,900, necessitating an expenditure exceeding 400 lakhs, out of which 177 lakhs were provided from public funds, the balance being obtained from fees, endowments, and private sources. Thus the total cost to the public funds fell short of £1,200,000. showing its growth during quinquennium 1902 to 1907.

According to the same report the population of British India was in 1907, 229 millions scattered over an area of 964,073 sq. miles, and the activities of the Education Department throughout the country were distributed in the following way at the end of the quinquennium :—3,937,866 pupils in 112,930 primary schools, 713,342 scholars in 5,898 secondary schools, and 25,168 students at 182 colleges; the total number of public educational institutions was 121,336, accommodating 4,744,480 pupils, this latter number rising to 5,388,632, if pupils at private institutions be included. The total cost to the country of this educational system was 559 lakhs of rupees, out of which 296 lakhs (£2,000,000 nearly) represented the expenditure from public funds.

These figures for the years 1902—7 are of peculiar importance because they record the educational results which have sprung from the application of the common policy of educational expansion and reform outlined authoritatively in 1904 by the Governor-General in Council, and followed continuously from that date in all the provinces of the Indian Empire. Their importance.

Position examined.

The same resolution, in a section dealing with the merits and defects of the existing system,(2) states that— Advantages which have resulted.

> " it is almost universally admitted that substantial benefits have been conferred upon the people themselves by the advance which has been made in Indian education within the last fifty years; that knowledge has been spread abroad to an extent formerly undreamed of . . . . and that there has been a marked improvement in the character of the public servants now chosen from the ranks of educated natives, as compared with those of the days before schools and universities had commenced to exercise their elevating influence. But it is also impossible to ignore the fact that criticisms from many quarters are directed at some of the features and results of the system as it exists at present, and that these criticisms proceed especially from friends and well-wishers of the cause of education. Its shortcomings in point of quantity need no demonstration . . . . In point of quality the main charges brought against the system are to the general effect (1) that higher education is pursued with too exclusive a view to entering Government service, that its scope is thus unduly narrowed, and that those who fail to obtain employment under Government are ill fitted for other pursuits; (2) that excessive prominence is given to examinations; (3) that the courses of study are too purely literary in character; (4) that the schools and colleges train the intelligence of the students too little, and their memory too much, so that mechanical repetition takes the place of sound learning. . . . ." Defects of the system enumerated.

Further, it is stated in the same resolution(3)—

> " that Government service is regarded by the educated classes as the most assured, the most dignified, and the most attractive of all careers: and that the desire on the part of most students to realise these manifold advantages as soon and

(1) *Vide* Government of India, 5th Quinquennial Review, Vol. II, page 57, table 7; and page 60, table 16.
(2) " Indian Educational Policy," para. 8.
(3) *Ibid*, para. 9.

TIPPLE, E. F.—*contd.*

as cheaply as possible tends to prevent both schools and colleges from filling their proper position as places of liberal education."

These defects traced to two causes.

An examination of these defects in the light of the past history of Indian education very clearly indicates that they have sprung from two main sources, both lying beyond the control of the Education Department itself: (1) the primary motive which prompted Government to set up the existing system in 1854, and (2) the traditional modes of instruction which had previously held sway throughout the country. Attention has already been drawn to the fact that the first impulse towards educational development arose from the urgent demand that existed for clerks in Government offices. It was largely in order to meet this demand that Government formulated their educational policy and decided for the first time to take a direct part in the educational work of the country. The defects in the quality of education summarised under the headings (1) and (2) in the paragraph quoted above are obviously of a character to be expected from an educational system admittedly introduced with the avowed object of increasing the supply of public servants available in the country; while those grouped under (3) and (4) evidently result from the original inherent educational tendencies of India herself. The scheme introduced in 1854 appealed naturally to the majority of thoughtful Indians whose countrymen from time immemorial have been accustomed, under their native rulers, to regard positions such as dewan or wazir as the highest prize obtainable by an educated man. In consequence the supply very soon outstripped the demand, and year by year the number of educated Indians unable to find employment under Government has largely increased. The natural outcome of such a system was a feeling of grievance which rapidly developed into discontent.

(1) Initially narrow educational outlook of Government.

(2) Inherent defects of India's traditional educational methods.

Education system, resulting from this narrow outlook, unsatisfactory.

During the unfortunate years of seditious disturbance preceding 1909 much of the blame for such outbreaks was justly laid upon the educational *system* of the country. It must be noted in this connection, however, that responsibility for this system rests upon the administrative Government by whom it was originally set going, and not upon the Education Department, which is merely a part of the system introduced, and which, in spite of the initial administrative bias and the inherent traditional tendencies of the country, has admittedly produced a marked improvement in the type of public servant educated in the country.

Government's lack of confidence in educational officers.

The effect of this bias, the existence of which is indicated in the original motive which prompted the despatch of 1854, is further illustrated by the following significant fact. During the unfortunate period mentioned above, Government possessed so little confidence in the educational system for which it was responsible, that it felt constrained to issue circulars drawing the attention of its educational officers to a detailed list of the most obvious duties devolving upon them to assist in combating the propagation of seditious ideas.

Narrow outlook results in secretariat bias against the adoption of a liberal educational policy.

The above evidence is sufficient to indicate that in the past there has been prevalent in secretariats a very one-sided view of the advantages to be derived from education, and it suggests that the administrative reluctance to introduce a really liberal and progressive educational policy has been due to the idea that such a policy would make the task of Government more difficult, rather than that it would render the country more worthy of its position in the Empire and increase its real need for a highly specialised and advanced system of administration.

Further, there is a very strong opinion in Indian secretariat circles that education offers the most suitable field for the exercise of India's nascent powers of self-government, and that consequently the chief educational need of the country lies not so much in a strong and efficient Education Department, organised on lines which have recommended themselves in the western world, but rather in the encouragement and gradual development of India's power to evolve an educational system for herself under the fostering care of non-expert secretariats. This is an obvious reversion to the initial position when—

> " the first instinct of British rulers was to leave the traditional modes of instruction existing in the country undisturbed."

Definite recognition.

The unsatisfactory condition of educational affairs in India has been the subject of a note by Sir Henry Craik, and since it bears upon the points mentioned above, the opinions

expressed by this eminent and independent authority are of great interest. Writing upon the subject after his tour in India in 1907-08, Sir Henry Craik stated(1)— Opinion of this by an independent educational authority.

> "It is the system that is wrong—wrong in its original conception and faulty in its present administration. Education has no independent place in the central secretariat and all new schemes must be submitted through an alien department."

The same writer, referring to the evidence before the Decentralisation Commission, also stated that:—

> "I had the advantage of hearing some of the educational evidence placed before the Decentralisation Commission. The chief witness * examined (of whom I know nothing before) seemed to me to give his evidence with admirable force, and was evidently in touch with all that is soundest in educational theory at home. It is not, perhaps, surprising that his questioners were not so conspicuously conversant with the subject; and the cross-examination of one of the commissioners—himself a civil servant in India—served what was to me the useful purpose of showing a spirit which, so long as it prevails in official quarters, will, in my opinion, effectually bar the way against any real educational reform. Educational administration must have its own independent position before it can make any bold and effective advance."†

Furthermore, during the past few years events in India have caused considerable attention to be focussed on Indian educational affairs, even in England. When the unsatisfactory condition of these affairs came to be realised, the question of the appointment of a special Royal Commission to conduct an enquiry received considerable attention. Mr. Montagu, Under-Secretary of State, replying in the House of Commons to a question put by Sir Philip Magnus, said:— Suggested advisability in high official quarters of an enquiry by a Royal Commission.

> "The necessity for an improved system of education in India demands comprehensive and urgent recognition. Lord Morley is unable at present to promise the appointment of a committee or Royal Commission, but he recognises the probable advantage of such a course."

The possibility of a Royal Commission being appointed to conduct an independent enquiry into the Indian educational system caused considerable alarm in Indian secretariat circles. The *Pioneer*, the leading conservative organ in India, which voices the views of the higher administrative service, writing in May, 1910, on Indian educational affairs, stated in a leading article(2) that— Reception of this suggestion in India.

> "In England the idea seems to prevail that we are in urgent need of a brand-new educational policy. . . . . Even Lord Morley appears to share this delusion. What Lord Morley's intentions in this connection may be in the future no one in India probably even pretends to know, but it is significant, perhaps, that we should be already hearing of an eminent Oxonian scholar with qualifications for conducting an expert enquiry into our educational system. The gentleman in question is a Mr. M. E. Sadler . . . . who has had a wide experience in 'overhauling' systems of education in English towns and counties. We have no desire to belittle Mr. Sadler's attainment as a scholar or his claims to pose as an educational expert, at any rate outside India, but the point is that there is nothing to be gained and much to be lost by bringing out to India either a Royal Commission or a roving educational inquisitor. The only result of special enquiries of this kind would be to hang up indefinitely all those schemes of progress in which local Governments as well as the Government of India are particularly interested at the moment."

Such a statement from the *Pioneer* not only bears out the remarks made by Sir Henry Craik in 1907-08, but indicates the existence of a deeply-rooted bias in official administrative circles against the introduction of a really sound and liberal system of education. Its confirmation of Sir Henry Craik's criticisms.

(1) *Vide* Appendix A.
* A Member of the Indian Educational Service.
† See also Appendix Aa.
(2) *Vide* Appendix B.

TIPPLE, E. F.—*contd.*

The New Department.

Official recognition of the force of these criticisms followed by hurried administrative re-adjustments in India.

The possibility of the appointment of a Royal Commission to conduct an enquiry into Indian education was rapidly followed by the formation out here of a department of education for the first time at the headquarters of the Government of India, but it must be noted that the Department is still "an alien department," so far as education is concerned. The Calcutta *Englishman*, writing of this Department on December 13th, 1910, stated (1) that—

Real nature of adjustments exposed in Indian press.

> "The new Department of Education which has now been created should apparently have been in existence for years, as the educational policy of the Government of India has been subjected to more severe criticism than perhaps any other. With a properly organised department many mistakes of the past might have been avoided. Even as now constituted the Department has tacked on to it certain branches of work which do not properly belong to education. But the resolution of the Government of India creating the new Department is quite frank about the secondary object with which it has been brought into existence, *viz.*, 'for affording relief to the Home Department.' No one will question the necessity for giving the Home Department relief, at the same time the expediency of tacking on local self-government to education seems a trifle far-fetched, even on the ground that 'municipal and local bodies are responsible for no small part of the public expenditure on education.' But even accepting the principle that all matters relating to local self-government are more or less connected with education, we fail to see why the new Department should be saddled with such miscellaneous branches of work as sanitation, archæology, books, records, ecclesiastical, and a few other subjects of minor importance now dealt with in the public branch of the Home Department.....It seems to us..... that if the energies of the new Education Department are to be dissipated in controlling the subjects named above, its officers will have very little time to devote to solving educational problems."

Need for educational reform employed as a justification for bifurcation of Home Department.

Miscellaneous duties allotted to the so-called Education Department.

Changes more nominal than real.

Such criticism shows that the new Department at the head-quarters of the Government of India is an Education Department more in name than in fact, and indicates that any advance, which may have been made in recent years, rests upon very insecure foundations, especially when viewed in the light of the official bias which has already been shown to exist.

The member in charge of the Department is a covenanted Civil Servant, and not an expert educationalist, while of the two joint secretaries under him, the junior alone is an educational officer, the senior being another member of the Civil Service. Moreover, the name Education Department is a complete misnomer, and could equally well be replaced by "Sanitation Department," or "Local Self-Government Department," the same also applying to the much paraded title "Education Member." Week by week and month by month the only notifications which appear in the Government of India Gazette (Education Department) deal almost exclusively with the postings of ecclesiastical and sanitation officers, while only on very rare occasions have they any reference to educational affairs.

Dangers ahead. Sanitary reform may take precedence of educational reform.

Furthermore, recent events have distinctly indicated that there is danger of educational matters being overlooked in a growing anxiety for sanitary reform, and no less a person than the Education Member himself, while presiding over an All-India Sanitation Conference, specially convened by the Education Department of the Government of India, remarked in his address to the members of the Conference, that—

> "it was no mere chance that education and sanitation were grouped together under one Department."

(1) *Vide* Appendix C.

TIPPLE, E. F.—*contd.*

Since this announcement there have been many stalwart advocates of the policy that sanitation should take precedence of education, and in the *Times* (1), dated February 4th, 1913, strong protests were made—

> "against the folly of allowing education to run away, leaving sanitation hopelessly behind."

Those in India, who are familiar with the prevailing condition of affairs, distinctly fear that, on the contrary, sanitation may be advanced at the expense of education. Because school authorities can, and in several instances do, undertake the teaching of the principles of hygiene, that is no reason for combining sanitation and education in a single department for purposes of administration. The great need for sanitation in India is well recognised, but this is merely a reason for placing its control in expert hands. Under existing conditions it is becoming a matter of some difficulty to determine how much of the Education Budget is for education, and how much for sanitation. Thus, in the Government of India Budget Statement for 1913, a sum of 2½ crores of rupees is set aside for non-recurring expenditure on education, and 1½ crores for urban sanitation. With regard to recurring expenditure, however, 1 crore is allotted for education and sanitation together. Now, money spent on buildings and equipment for educational work cannot be spent efficiently without proper expert advice, and a corresponding increase in recurring expenditure for up-keep; it is consequently anomalous that although so large a non-recurring grant as 2½ crores is proposed specifically for education, there is at the same time no indication of the precise additional recurring expenditure that should form the natural corollary of so large a non-recurring grant. Such methods of finance indicate an allotment of funds which cannot have been preceded by the preparation of a carefully detailed scheme of expenditure, and this is borne out by the statement made by the Education Member in the Imperial Council Chamber, Delhi, on February 28th, 1913, when he stated that—

Need for clear differentiation between expenditure on Education and that on Sanitation.

> "of the grants given for the last two years, some 71 lakhs or £500,000 sterling have not yet been disposed of."

It must be admitted that facts such as these are calculated to rouse the fears of those interested in the advance of Indian Education, and who are familiar with its history. In the past Indian Educational administration has not escaped the severe adverse criticism of expert European educationalists, and at the present time Indian educational policy fails to obtain the full confidence of those Indians anxious for the educational development of their country, as became very obvious during the discussion which took place in the Imperial Council Chamber on February 25th, 1913, when this subject came up for discussion, and much disappointment was expressed at Government's inability to lay down a fully detailed programme.

Government educational policy fails to secure either expert approval or the confidence of Indian public opinion.

Finally, the recently issued resolution, dated 21st February, 1913, dealing with the Educational Policy of the Government of India, is largely a colourless document filled with educational platitudes.(1) So far as it deals with one highly important branch, technical education, it is most deficient, and contains indications of the Government's tendency to ignore, in the case of technical education, the fundamental distinctions between secondary and higher grades, which has been productive in the past of so much confusion in the case of general education.

There is a distinct tendency in official circles to divorce technical education from general education on the ground that educational officers are not qualified to deal with so important a subject. This is largely due to the fact that educational officers are held responsible for the mistakes which have been made in the past, although it is sufficiently clear that such officers have not been in any way responsible for the educational policy which Government has pursued. It is impossible here to avoid briefly contrasting the educational method of India with that of Japan, in which country some forty years ago the Japanese Government secured the services of a small band of English educational

Responsibility for past mistakes does not rest with educational officers.

(1) *Vide* Appendix D.

TIPPLE, E. F.—*contd.*

experts to organise both technical and general education, with a success which is too well known to need recapitulation. It is noteworthy that in its latest educational resolution,

> "the Government of India, agreeing with the great majority of the local Governments, are unable to accept the view that the Director of Public Instruction should be *ex-officio* Secretary to Government,"

Secretariat dislike of expert educational advice.

by which decision the new Education Department has shown itself prepared to continue an anomaly in the existing system of educational administration which has called forth the most severe condemnation from some of the ablest of educational experts, and Indian administrators alike.

The Indian educational service.

Official recognition of the beneficial work executed by educational officers.

It is here necessary to examine the nature of the organisation by means of which the actual work of education is carried on in India, and which, in spite of the inherent difficulties and initially wrong administrative bias already discussed, has yet been productive of—

> "a marked improvement in the character of the public servants now chosen from the ranks of educated natives, as compared with those of the days before schools and universities had commenced to exercise their elevating influence."

The resolution of 1904, from which the above quotation is taken, describes this organisation in the following words(1) :—

Official description of educational officers' work in India.

> "The Education Department is divided into the superior and the subordinate services. The superior service consists of two branches, called respectively the Indian and the Provincial educational services, of which the former is recruited in England and the latter in India. The opportunities and responsibilities which work in the Department brings to an officer of this service give scope for a wide range of intellectual activity. Such an officer takes an active part in the profoundly interesting experiment of introducing an eastern people to western knowledge and modern methods of research; he comes into contact with the remains of an earlier civilisation and the traditions of ancient learning; he can choose between the career of a professor and that of an educational administrator; and in either capacity he has great opportunity of exercising personal influence and promoting the best interests of genuine education. In order that members of the Indian educational service may keep themselves abreast of the advances which are now being made in other countries in the science of education, facilities are given to them, while on furlough, to study theory and practice of all branches of education both in England and in other parts of the world. The part, already considerable, that is taken by natives of India in the advancement of their countrymen in modern methods of intellectual training will, it is hoped, assume an even greater importance in the future. If the reforms now contemplated in the whole system of instruction are now successfully carried out, it may be expected that the educational service will offer steadily increasing attractions to the best educational talent. Where the problems to be solved are so complex, and the interests at stake so momentous, India is entitled to ask for the highest intellect and culture that either English or Indian seats of learning can furnish for her needs."

It is upon officers of the Indian educational service that the main responsibility rests for the maintenance of adequate educational standards so far, at any rate, as "western knowledge and modern methods of research" are concerned. This is accomplished through the agency of Government arts colleges, professional colleges, model high schools, training schools, and the higher grade inspectors; and these form the principal safeguards for ensuring that the work represented by the figures given in educational statistics shall be of a quality which shall justify the increasing public expenditure devoted to it.

(1) *Vide* "Indian Educational Policy," para. 45.

TIPPLE, E. F.—*contd.*

In view of this, it is instructive to note that, in August, 1907, no less an authority than the late Sir Edward Law, sometime Finance Member of the Viceroy's Council, made the following deliberate statement(1) :— Misleading nature of this description clearly exposed.

"The fact is that education officers have been, with intent, kept in a distinctly subordinate position."

This statement is in startling confliction with the spirit of the quotation taken from the 1904 resolution, and lends added weight to the criticisms of Sir Henry Craik in 1908 when he referred to :—

"a spirit which so long as it prevails in official quarters will effectually bar the way against any real educational reform."

Independent evidence is not wanting to show the existence of such administrative tendencies which, during the past twenty years, have produced a steadily detrimental influence upon the Indian educational service. Thus previous to 1896, apart from certain special posts, the service, so far as concerned superior appointments, was mainly divided into four grades; the distribution of officers and salaries being as shown in Appendix F. With the reorganisation of 1896, the substitution of a time scale with personal allowances, in place of the four grades already mentioned, slightly diminished the average pay of the service, and only afforded benefit in the earlier years of service at the expense of the later. It thus tended to create an initial attractiveness during those earlier years which rapidly evanesced in the later, and it is doubtful whether such a change can be regarded as calculated to produce the best results from the service concerned. Moreover, a secondary result was to degrade the official status of the educational officer in his later years of service, since recognition in the warrant of precedence depends for educational officers upon salary, and only in exceptional cases can such officers now receive any recognition at all. Also, the actual number of Indian educational officers was reduced (*vide* appendix F) and the number of allowances was calculated on the strength of the cadres then sanctioned. Thus in 1896, twenty out of seventy-seven officers were admissible to these allowances; since 1896, however, the strength of the cadres has almost doubled, but the number of allowances has not been increased, and, consequently, the present condition of affairs is the same as would have existed under the old graded scheme, if the cadres had been doubled and the whole of the increase confined to the lower two grades. Further, the change effected a saving of over Rs. 8,000 per mensem or close upon one lakh per annum, on the cost of all superior posts in the Education Department, although it slightly increased the expenditure on the Provincial service at the expense of the Indian educational service, a movement in strict accordance with an administrative tendency, already noticed, in favour of the traditional modes of instruction existing in the country, despite the fact that these are calculated to over-develop the memory at the expense of the intelligence. Degradation of the educational service consequent upon the last reorganisation of 1896.

The main effect therefore of the 1896 reorganisation was to lower the status of the European element in the department, to diminish its prospects and to reduce its numbers(2); it is consequently difficult to regard it as other than a retrograde step. It was unquestionably necessary to increase the share which educated Indians could take in the system of public instruction spreading over their country, but to do so without taking adequate measures to ensure that the quality of instruction given should conform to European standards was to court educational disaster. Summary of the results of this reorganisation.

There is, moreover, official indication that the steps taken in 1896 were, admittedly, retrograde; thus in 1906 the Secretary of State issued the following ruling :— Secretary of State's recognition of secretariat tendency to refuse educational officers any effective control over.

"The Secretary of State desires that appointments to the directorship (of public instruction) should no longer be governed by the rules laid down in the resolution of 1896, but by those prescribed in the Home Department resolution of September 4th, 1886. The latter resolution, while not giving members of the education service an absolute claim to succeed to the post of director, contemplated that before appointing a person not belonging to the service local Governments should, in the event of their considering it desirable to fill the

(1) *Vide* "Blackwood's Magazine," August, 1907.
(2) *Vide* Appendix G.

TIPPLE, E. F.—*contd.*

Government's educational policy.

post otherwise than from the local educational staff, seek the assistance of the Government of India with a view to procuring a suitable selection from the Educational Department of some other province. The Secretary of State also considers it desirable that in order to provide a properly qualified successor in the event of a vacancy arising in the directorship, measures should be taken in good time to give the officer on whom the choice would most probably fall a wide experience of the working of the department in all its branches."

The post of Director of Public Instruction is an onerous one, since he is the officer responsible for the efficient working of the Department under each local Administration. The fact, however, that there should be difficulty in obtaining a suitable officer from the ranks of the service is certainly an indication that the recruitment cannot be entirely satisfactory. In 1907, the Indian Educational Service included 157 officers, while the number of directorships was 8, and the fact that 5 per cent. of the service could not be relied upon to develope the necessary administrative ability to fit them for such posts constitutes the most serious indictment possible against either the existing method of recruitment, or the inducements of the service to attract the right type of man.

With reference to the Director it must be noted that, although responsible for the work of his Department, he does not possess the official right to lay his proposals personally before the executive head of the local Administration. The proposals must be submitted through the Secretary of "an alien Department," and Sir Edward Law,* writing upon this said :—

Further exposure of this tendency by Sir Edward Law.

"The Director has no direct access to the Governor of the province, and can only address the local Government through a chief secretary who is overburdened with other business and who, as I have already pointed out, may feel no personal interest in educational questions. . . . . I cannot believe in any permanent improvement until directors have direct access to the chief executive officer in their respective provinces."

Position slightly modified on the enlargement of legislative councils,

With the introduction of enlarged legislative councils, directors of public instruction have been granted seats on such bodies, and have in consequence been entrusted with duties which give to such officers the appearance of secretaries to Government. It must, however, be noted that there is still an intrinsic difference between the position of a director of public instruction and an officially recognised secretary: the latter has access to the executive head of his province by right, the former merely by courtesy, and it is consequently still possible for administrative action to be taken in educational matters without the official knowledge of the Director. Moreover, this anomalous position, as already pointed out, has now received the final approval of the Government of India through its curiously constituted Department of Education. The position, here discussed, is fraught with much danger, particularly at the present time, when it is being recognised on all sides that a large extension of educational activity is necessary in the country. Under existing circumstances there is no guarantee that money allotted to education will be expended in pursuance of a continuous educational policy carefully thought out in all its details. Secretaries to local Governments chosen from the ranks of the covenanted service are changed possibly every five years or less, and much time is lost at each change so far as education is concerned. If the secretary feels "no personal interest in education," he is probably less dangerous than if he has pre-conceived ideas formed in a non-educational field of labour. In any case it is doubtful whether rapidly changing non-expert secretaries are best suited to deal with questions of policy affecting any branch of specialised professional work. It must be borne in mind that the secretary to a local Government does the work of a permanent official in the English Civil Service, and not that of a Secretary of State, and the existing position in the Education Department has admittedly been found unsuited to the needs of one highly specialised professional branch of Government service, *viz.*, the Public Works Department, where the Chief Engineer is *ex-officio* Secretary to Government.

Position insecure.

* Blackwood's Magazine, August, 1907.

TIPPLE, E. F.—*contd.*

Evidence is not wanting to illustrate the very real nature of the danger referred to above. Thus in the last quinquennial report, 1902 to 1907, it is stated in paras. 185-186, that :— Illustrations of this.

"There are two important developments to be recorded in the quinquennium. One is the transfer of a large number of municipal schools to the Education Department in the Punjab, so as to complete the provision of a Government school in every district; and the other is the movement made in precisely the opposite direction by the United Provinces, where the local Government in the year 1906 made over the district high schools to the management of district boards. ..... Lest, however, this isolated action of the United Provinces should acquire excessive importance by being supposed to mark an important turn in policy, it may be well to record that the transfer of the schools to the district boards had a very brief life, and that shortly after the close of the quinquennium the action taken in 1906 was reversed, and the schools were again placed under the management of the Educational Department with, as the Lieutenant-Governor remarked, 'acclamations of approval.'"

Again, this point is further illustrated in the following statement made by the Director of Public Instruction, United Provinces, in the local Legislative Council at Lucknow on the 13th March, 1912 :—

"The chief recurring item of my budget is an item of new expenditure of Rs. 1,27,000 for the provincialisation of the district inspecting staff, in other words for the transfer of deputy and sub-deputy inspectors of schools from the services of boards to the Education Department. The reform is one which I have advocated for more than four years ..... the reform will enable my department to act as the eyes and ears of Government in the districts as to the extent and progress of vernacular education, and it will further enable it to help and advise the boards in the administration of the schools. A further benefit which will result from the change will be that vernacular education will be protected and encouraged by a department that has no doubt about its value and only desires most earnestly to see, as soon as may be, the reproach of illiteracy removed from this province."

In view of these facts it can scarcely be doubted that there is urgent need for the inclusion of an expert educational adviser in the inner councils at the head-quarters of local Administrations, and, moreover, that such advisers should possess full official recognition, rendering it impossible for proposals affecting matters of educational policy to receive official consideration by the executive head of the Government unless submitted to him through the Educational Department. Such procedure would only place education upon the same footing as public works. Urgent need for official recognition of the value of expert educational advice.

Conclusion.

In view of the preceding evidence it may now reasonably be contended that the extension of educational activity in India which has undoubtedly followed the issue of the authoritative resolution on Indian Educational Policy by Lord Curzon, in 1904, has not been accompanied by an adequate administrative reorganisation in connection with the relations existing between the secretariats and the Education Department. Present position specified.

It must be remembered that the paramount administrative authority in Indian secretariats rests with a single branch of the public services which, it is claimed, forms a "corps d'élite." The unique position of this service (the covenanted civil service) dates from a time when there were practically no distinct professional services in the country, and the members of this service still arrive in India devoid of any specialised professional training such as is required in the case of officers recruited for the Public Works Department, Forest, Agriculture, Education, and similar professional departments. As divisional and sub-divisional officers members of this covenanted civil service are regarded as constituting the official eyes and ears of what is familiarly known as the Patriarchal System of Governmen . This system has, without doubt, been extraordinarily successful in the past while India has been slowly assimilating the ideas and methods of western civilisation, but it remains one which is diametrically opposed in principle to that towards which This position shown to be

TIPPLE, E. F.—*contd.*

an anachronism.

those same western ideas inevitably point. Moreover, although the village life in India even yet remains but slightly influenced by the West, still the city and industrial life has within recent years absorbed such influence to an extent which has radically altered its character. In times past it has been essential that officers of the covenanted civil service should be handy-men(1), capable of turning their hands to anything, but during recent years the conditions which demanded such qualifications have passed away. Many branches of the public service are now filled with highly specialised professional men, and to continue to place the control and direction of these specialised branches in the non-expert hands of an alien service is a deplorable anachronism. The need for higher specialised professional branches of the public service has become undeniable, and the recruitment and organisation of such services is a matter of pre-eminent importance of India's further development. But such recruitment and organisation cannot be properly efficient unless there be a fundamental change in the administrative relations existing between these branches and the "corps d'élite."

India's growing need for specialised professional services.

This already recognised in the case of the Public Works Department.

This has already been very clearly indicated in the case of the Public Works Department, which at the present time is the oldest and most highly organised of such branches, and now forms an efficient professional service of assured status, officially recognised in the local secretariats, and held to be in responsible charge of its own section of Government work. Similar developments must inevitably follow in other directions, and the recent expansion of educational work, with the attempted administrative readjustment already noticed, indicates the necessity(2) for the liberal adoption of an administrative attitude towards the Educational Department similar to that which has now been in vogue for some time in the case of the Public Works Department.

Similar recognition in connection with education essential to future progress.

The first step towards such an administrative change is the one to which attention has already been directed independently by Sir Edward Law and Sir Henry Craik, two authorities respectively on the administrative and educational side whose opinions are of undoubted weight. Until directors of public instruction are transformed into officially recognised secretaries to local Administrations, the educational efforts of Government will lack efficient expert control, and secretariats will continue to display that bias which has been evidenced in the past by a spirit of hesitating mistrust of the advantages to be derived from a general policy of sound educational advancement in India. Patriarchal control, no matter how beneficent in intention, should no longer be allowed to interfere with expert technical direction in the details of departmental administration.

Indian educational problems are of increasing complexity, due partly to the accumulation of errors in the past, but still more to the changes which are being effected in the country's commercial and industrial position. Primary, secondary, university, and technical education all demand increased expert attention, which it will be impossible for Government to give without a highly organised professional Educational Department. The lines which such organisation should follow have already been evolved in the case of the Public Works Department. Their adoption must follow in the case of other large professional services, and at the present time the importance of educational work in India is sufficient to justify their adoption in the case of the rapidly extending educational service.

E. F. TIPPLE.
P. P. PHILLIPS.

APPENDIX III.-A.

The "Pioneer," Allahabad, March 1st, 1908.

SIR HENRY CRAIK, M.P., ON INDIAN EDUCATION.

Sir Henry Craik, M.P., the distinguished educationalist, who has lately been on tour in India, in communicating his views to a Home paper, delivers a

(1) *Vide* Appendix H.
(2) *Vide* Appendix I.

TIPPLE, E. F.—*contd.*

judgment on the educational system of this country, which may well be taken note of. He writes:—

On most Indian questions I form an opinion with diffidence and express it with hesitation. On the main aspects of the educational question I confess that I feel less hesitation. I have seen much earnest and energetic work, and I am conscious that there is much more that I have not seen. But in thinking that in its main lines it is hopelessly wrong, I am only repeating the opinion expressed to me universally by all the wisest Anglo-Indians and natives whom I have seen, and impressed on me by my own experience. I can only describe that impression by saying that there is a sort of mildew lying over the work. System, routine, and formality rest like shackles over the whole thing. I found handbooks of the modern philosophy of the West in the hands of whole class-rooms of students, who could formally con their teachings, but in whose minds a totally different set of thoughts was implanted by their history and their nature. Theories of political science and of political economy were being inculcated in youths who could deftly apply them to their own purposes, but who were entirely ignorant that the matters which they discussed and the theories which they propounded were not fundamental axioms, but matters on which in western life a hundred different views were entertained. One of the ablest amongst the educational workers whom I met told me, with the weariness of misapplied labours,—"I have to-day been trying to explain to a class of Hindu students the meaning of Shelley's *Ode to the Skylark* and *Silas Marner*. They are prescribed in the university curriculum, and so they must be learned. What good can it do?" Only one answer is possible. In the libraries of the higher schools I constantly found *Tom Brown's School Days*. What meaning can that have for boys who have drunk in with their mother's milk ideas of formal courtesy, of studied respect for age and rank, of a personal dignity dependent on fixed rules which have the force of religion? Do we really imagine that we shall create in them the spirit of the English schoolboy by what they must hold to be a travesty of all the relations of life as these appear to them?

I am quite aware that there is a good deal of sound technical education being attempted in India, and glad to know that some of the ablest of our Indian administrators feel the necessity of more being done in this way. But in many cases I am obliged to confess that such technical education as I saw was a miserable mockery, and those who showed it could only say that they had hopeless hindrances—the weight of which I fully admit—to contend against. The system of caste, the habits of the people, their inertness in manual labour, their fixed idea that clerical work has a dignity of its own—all these will take long before they are overcome. But meanwhile we might surely endeavour to link the intellectual training which we give more closely to their life and their traditions, and to abandon the senseless attempt to turn an Oriental into a bad imitation of a western mind. Why should we teach them that education is impossible without acquiring the English language? What can that impress upon them except that education is useful only to enable them to undertake those administrative duties which are their absorbing ambition; and in the exercise of which they rarely command the confidence of their own race! Here in Bengal, under the permanent settlement of Lord Cornwallis, the great zamindars have large estates and vast influence. The management of these estates, and the supervision of their tenants or ryots might give them employment of the best kind and a sphere of enormous usefulness. If education is to do anything for them it must be by making them cultivated gentlemen of enlarged views, but not necessarily views out of harmony with their own traditions. As it is they leave our colleges with only one aim, to become Government officials, and with acquisitions of knowledge that drive them further from their own people, instead of bringing them into closer touch with and rendering them more fit for the work which can be discharged by none except themselves. It is not a triumph for our education—it is, on the contrary, a satire upon it—when we find the sons of leading natives expressly discouraged by their parents from acquiring any knowledge of the vernacular. Yet instances of this are by no means rare. It is a smaller thing, but yet an undoubted evil, that this over-strained temptation to the native to learn English tends to render the command of the vernacular by Anglo-Indians much more restricted than the old officials assure us that it was in the early days of their service. This does not, of course, apply to the provincial districts—the mofussil, as they are called, where the district officer must be, and is, familiar with the vernacular—but it is unquestionably the case in some of the

TIPPLE, E. F.—*contd.*

central seats of Government. If the tendency spreads, it will sap more than anything else the security of our hold on India. It is one of the chief incentives to a certain class of natives to acquire facility in our tongue, that by so doing they can interpose between the higher official class and the mass of the people.

I am quite aware of the immense difficulties of re-casting the educational system. But that it requires re-casting is the opinion not of a man here and there, but of everyone who is capable of judging. We must free education from the domination of examination. We must leave greater freedom of choice and of method to separate schools and colleges. We must show the native that education has other aims than to make babus, subordinate officials, and pleaders. We must teach them that there are other spheres of activity for the educated man than the law-courts and Government appointments. We must abandon the vain dream that we can reproduce the English public school on Indian soil. We must recognise that it is a mistake to insist that a man shall not be considered to be an educated man unless he can express his knowledge otherwise than in a language that is not his own. Place no restriction on English as an optional subject, but cease to demand it as the one thing necessary for all.

And in another and more restricted sphere, I fancy that most of us who know India will agree that, with the most benevolent of aims, we have encouraged a course of doubtful expediency. It has become the fashion for the sons of well-to-do parents to be sent to Britain for their education, and educational institutions at Home are not slow to encourage it. But is it wise, and does it tell in the long run, for their own good or the good of their country? Such youths come into surroundings for which, as a rule, they are ill-fitted. With the marvellous capacity which they possess of adapting themselves to the superficial aspects of their surroundings, they settle down for a time, and their tutors and guides at home are satisfied with their conduct, and fancy they are being moulded into British shape. But do they enter into full sympathy with our thoughts and feelings, or is it, indeed, expedient that they should do so, in view of their future lives? They usually come when, with a maturity strange to the Western youth, they are at the same time utterly incapable of judging our social conditions, or knowing them below the surface. Too often they form aspirations which can never be satisfied, and which no human contrivance can enable them to attain without involving incalculable evil. They break with their own traditions, they cease to be true representatives of their own people, and yet they are divided by an impassable barrier from ours. I know that there are notable exceptions; but they are due to special natural faculties and to special racial peculiarities. For the most part the experiment of mental and moral acclimatisation proves a hopeless failure. Let them come, if they come at all, not at the impressionable period of youth, but when character has been formed, and when they are able to judge and appreciate, not to imitate, superficial traits.

I wish most carefully to guard myself against any suspicion of adversely criticising educational officials of India. Some of them, I fancied, seem tired out with their work, and scarcely to be versed in the most recent educational movements. But amongst them there are men of first-rate ability. It is the system that is wrong—wrong in its original conception, and faulty in its present administration. Education has no independent place in the central secretariat, and all new schemes must be submitted through an alien department. The result is what it inevitably must be—misunderstanding and delay. The evil was supposed to be met some years ago by the appointment of a junior official from Home to act as a sort of general adviser to the central Government. The plan was one which, without the smallest personal reflection, hardly could have proved satisfactory, and which has not apparently worked better than was to be expected. I had the advantage of hearing some of the educational evidence placed before the Decentralisation Commission which is now ranging over India. The chief witness examined (of whom I knew nothing before) seemed to me to give his evidence with admirable force, and was evidently in touch with all that is soundest in educational theory at Home. It is not, perhaps, surprising that his questioners were not so conspicuously conversant with the subject; and the cross-examination of one of the commissioners—himself a civil servant in India—served what was to me the useful purpose of showing a spirit which, so long as it prevails in official quarters, will, in my opinion, effectually bar the way against any real educational reform. Educational administration must have its own independent position before it can make any bold and effective advance.

TIPPLE, E. F.—*contd.*

APPENDIX III-Aa.

The "Pioneer," Allahabad, March 26th, 1908.

IDEAS ON INDIAN EDUCATION.

The *Morning Post*, which is better informed upon Indian affairs than most English newspapers, has lately had some severe criticisms upon our educational system :—

> "The Indian Government," it says, "of 50 or 60 years ago imported into India a system of instruction borrowed from England, where instruction was not well conducted and education utterly neglected, except by one or two pioneers like Arnold of Rugby..... The marvel is not that these past follies of Indian Governments have produced the Tilaks and Lajpat Rais, but that there should have emerged from so ill-judged a system the many Indians of high character and sound judgment who have adorned the Indian Bench and the Indian Public Service."

The *Morning Post* goes on to indicate the remedy :—

> "What is wanted for Indian boys and young men is a discipline suited to the conditions of Indian life and of Indian religion, accompanied by instruction in the elements of natural science and of history, communicated in the native language of the pupils. English and English letters should be the accomplishment of those for whom there may be scope in Indian careers where English is requisite for their work."

It adds truly enough :—

> "The Englishmen engaged in education in India are, after all, the best judges in these matters. But, strange to say, they are not listened to by the Indian Government."

APPENDIX III-B.

The "Pioneer" Mail, May 27th, 1910.

Most people in this country are prepared to accept the statement that we owe a part at least of our recent troubles to an imperfect system of education. Yet there are probably few Anglo-Indians who would be willing to go back entirely on the achievements of the past fifty years. In England, however, the idea seems to prevail that we are in urgent need of a brand-new educational policy, that the only method of illumining our educational darkness is to exchange our old worn-out lamps for new ones of thoroughly up-to-date English make. Even Lord Morley appears to share this delusion ; otherwise we should not have Mr. Montagu declaring on his behalf that the Secretary of State "recognises the probable advantages" of an investigation, conducted either by a Royal Commission or a committee. What Lord Morley's intentions in this connection may be in the future no one in India probably even pretends to know, but it is significant perhaps that we should be already hearing of an eminent Oxonian scholar with qualifications for conducting an expert enquiry into our educational system. The gentleman in question is a Mr. M. E. Sadler, who was Director of Special Enquiries and Reports in the English Education Department from 1895 to 1903, and who has had a wide experience in "overhauling" systems of education in English towns and counties. We have no desire to belittle Mr. Sadler's attainments as a scholar, or his claims to pose as an educational expert, at any rate outside India ; but the point is, there is nothing to be gained, and much to be lost, by bringing out to India either a Royal Commission or a roving educational inquisitor. The only result of special enquiries of this kind would be to hang up indefinitely all those schemes of progress in which the local Governments, as well as the Government of India, are particularly interested at the moment. The ground has already been sufficiently prepared, and we have surely had enough of expert investigations involving immense labour, and ending in reports that are characterised by many impracticable suggestions. It is clear that the path of educational progress in this country

TIPPLE, E. F.—*contd.*

is strewn with many serious obstacles, and the struggle now proceeding in the Western Presidency in regard to the improvement of university courses is instructive of the kind of difficulties that have to be faced; but local Governments, no more perhaps than the Government of India, would be inclined to welcome in this or in other directions, the intervention of educational experts from outside. No one will deny that much remains to be done before we can be said to have put our educational house in order, but the work of reform can best be entrusted to those who have already made a study of our educational requirements on the spot.

APPENDIX III-C.

The "Englishman," Calcutta, December 13th, 1910.

THE NEW EDUCATION DEPARTMENT.

The Government of India, like the wheels of the Gods, moves slowly. It requires a tremendous amount of agitation and the pressure of public opinion to induce it to embark upon any new scheme of reform. In some respects this is sound policy, and "hustle" would be apt to place the Government in a false position. Having said so much in favour of the *festina lente* policy, it is only necessary to look back upon the results of such a policy in India to trace the backwardness of the country in many directions. The new Department of Education which has now been created should have been in existence many years, as the educational policy of the Government of India has been subjected to more severe criticism than perhaps any other. With a properly organised department many mistakes of the past might have been avoided. Even as now constituted, the Department has tacked on to it certain branches of work which do not properly belong to education. But the resolution of the Government of India creating the new Department is quite frank about the secondary object with which it has been brought into existence, *viz.*—"for affording relief to the Home Department." No one will question the necessity for giving the Home Department relief; at the same time, the expediency of tacking on local self-government to education seems a trifle far-fetched, even on the ground that "municipal and local bodies are responsible for no small part of the public expenditure on education." But even accepting the principle that all matters relating to local self-government are more or less connected with education, we fail to see why the new Department should be saddled with such miscellaneous branches of work as sanitation, archæology, books, records, ecclesiastical, and a few subjects of minor importance now dealt with in the public branch of the Home Department. Even the Imperial Record Office is to be handed over as a sub-department of the new Department. The resolution states that "the extreme importance of the subject of education needs no demonstration," and then proceeds to indicate the many directions in which the activities of the new Department are to be employed; but primarily it is to assist in solving the many educational problems that present themselves, and to direct the policy of Government in these matters. It seems to us, however, that if the energies of the new Educational Department are to be dissipated in controlling the subjects named above, its officers will have very little time to devote to the solving of educational problems; for local self-government is a big subject in itself; and if the recommendations of the Royal Decentralisation Commission are to be given effect to, the newly appointed Member in charge will not have much time to guide the educational policy of Government. His energies, and those of his secretary and junior officers and office establishment will be divided in a manner that does not augur hopefully for education. The officers of the new Department are not educational experts; and this circumstance raises a doubt as to the effective character of the Department in dealing with those problems for the solving of which it has been created. The only hopeful feature of the Department lies in its experimental character, as the Government of India regards the superior staff as provisional only, and subject to reconsideration in the light of experience which would be gained hereafter of the special requirements of the new Department. The Government of India, we are told, do not require to tie their own hands, or those of their successors by declaring that the posts of secretary or joint or assistant secretary should be assigned to any particular services, "as the creation of a new Department was an experiment and its novelty justified the

TIPPLE, E. F.—*contd.*

Government of India in retaining from the outset a full measure of freedom to modify the constitution of the staff in such a manner as seemed best calculated to fulfil the objects with which the Department was formed." This is the only hopeful feature of the new departure, and time alone will show what modifications may become necessary.

APPENDIX III-D.

The "Times," London, February 4th, 1913.

INDIAN SANITATION.

To

The EDITOR of the Times.

SIR,—We attempted in your issue of October 14 to show the absurdity of a scheme advanced by the Government of India which would limit the executive sanitary service to municipalities, or 7 per cent. of the population, whilst the rural population, amounting to 93 per cent. (or 227 millions) and admittedly suffering from an appalling death-rate from preventible diseases, is, with a bland faith in academic methods, left to find salvation in education. We also invited attention to the retrograde policy which, as a sequel to the vain endeavour to abolish the post of a separate Sanitary Commissioner with the Government of India, proposes to render him a negligible quantity by subordinating him to the Director-General, Indian Medical Service, who holds an appointment the selection for which and the *raison d'être* of which is the utilisation of medical, not sanitary, training or experience.

In your telegram of the 31st ultimo it is now reported that these opinions have evoked "adverse criticism" in India. It does not seem that this criticism is particularly potent, if the sample your correspondent has selected is typical. He reports that "the dream of an executive sanitary service for all India is one not in the least likely to be realised in these days of decentralisation."

But, as we have pleaded for "the organisation of an effectively administered sanitary service," and, in animadverting upon the petty and circumscribed effort of confining executive sanitary staffs to municipal areas, have stated "the scheme gives no real executive sanitary service to India," we fail to recognise the quotation which makes a covert suggestion of an inapplicable Procrustean policy to all India. As a fact, Imperial, Provincial, local, and municipal and private funds could be as safely utilised in supporting the influence of a "correctly administered sanitary service" as by the Education Department, when making its policy felt through the Indian educational service, the Provincial educational service, and locally-recruited subordinates—without in the slightest degree imperilling the rights and privileges of the suppliers of funds as now emphasised by decentralisation. We take it that such a service in India could not be termed "correctly administered" if it were incapable, not only of conforming to such conditions, but of adopting its methods to the economic, social, caste, and race peculiarities of the various provinces.

It is, however, curious that in a telegram purporting to describe the Sanitary Conference at Madras and making special reference to "adverse criticism" of our views no reference is made to Lord Pentland's closing address, in which they were fully justified. He stated:—"In a country like this, where so large a percentage of the population live under rural conditions, there may be some danger that the clamant needs of the towns and centres of industry may overshadow interests and wants. The importance of a pure water supply and other essentials of health is as vital to the villages as it is to the large towns and cities."

Further, Babu Motilal Ghose, the editor of a well-known Indian journal, whilst stating he yielded to none in his desire for the spread of education, in asserting the rights of rural areas, twitted the President, in an amusing parable of "two wives" on his obvious disregard of the interests of practical sanitation, and appealed to him to "show more substantial tokens of his love for his neglected wife sanitation . . . For in one sense sanitation demands more attention than education."

He specially called attention to the unchecked loss of life as influencing adversely the economic advance of the country, and he challenged that officer to show that Indians did not understand ordinary hygienic laws; he maintained it was not academic ignorance

TIPPLE, E. F.—*contd.*

of these laws which was at the root of the great mortality, but the absence of practical sanitation as applied to communities. Such contentions but illustrate how deeply the Education Department has blundered in not distinguishing between personal hygiene and the sanitation of communities, and has aggravated this by insisting that the latter must wait for the development of the former at the hands of the school master.

From *data* supplied by us, Mr. Stott, the well-known mathematician, has kindly calculated the waste of money which results from the useless attempt to rear men who shall be useful citizens, in a country where, undoubtedly owing to their insanitary environments, the expectation of life at birth of the Indian is nineteen years below that of the Englishman under more favourable conditions. He finds that if the expectation of life of the Englishman be regarded as the normal condition which should exist in a sanitary India, then, using Hardy's table of mortality, the excess loss in failure to reach the age of twenty-nine years by Indians educated at the school-going age amounts to £851,318 per annum of the total funds now spent for education—the calculation being somewhat less according to Stuart's table. Even after allowing liberally for possible errors and for a proportion of the value of education being reaped in good citizenship of those prematurely sent to death, the total loss is not less than £600,000. Under such conditions, increase of the proportion of the school-going age to be educated and the necessary further concurrent waste of funds as a sequence of neglecting concomitant sanitary measures is the penalty India reaps for handing sanitation, with other "miscellaneous" subjects, to the Education Department with its rival financial interests.

We trust it will not be thought we hold it an error to spread education in India, especially if more reasonable cognisance be taken of technical education in the interests of industrial development. In this connexion we protest solely against the folly of allowing education, under specious excuses of "new activity" and non-recurring doles, to run away with the bit and leave sanitation hopelessly behind; we also protest against 93 per cent. of the population, subject to the devastations of plague, cholera, malaria, and other preventible diseases, being left out of a scheme that is heralded by the Government of India as "the general reorganisation of the sanitary services throughout India."

Yours faithfully,

W. G. KING, *Col., I.M.S.,*
Retired: formerly Sanitary Commissioner with the Government of Madras,

W. J. SIMPSON,
Professor of Hygiene, King's College.

January, 1913.

SANITATION IN INDIA.

The "Pioneer," Allahabad, February 6th, 1913.

Colonel King and Professor Simpson write to the *Times* on India's sanitation, reverting to their argument in previous letters to the *Times* on the 14th October last. They reply in an exhaustive manner to the criticisms of their statements and cite data showing the huge loss, not less than £600,000, incurred through the failure of Indians educated at a school-going age to reach the age of twenty-nine and become useful citizens. They protest against the folly of allowing education to run away leaving sanitation hopelessly behind, and they also protest against 93 per cent. of the population being left out of the scheme which was heralded by the Government of India as the general re-organisation of sanitary services throughout India.

APPENDIX III-E.

The "Englishman," Calcutta, February 24th, 1913.

THE NEW EDUCATIONAL POLICY.

The very lengthy resolution by the Government of India, laying down the line of policy to be followed in matters educational, affords very instructive reading, and is an indication that the authorities have at last realised the inherent defects in the existing

TIPTLE, E. F.—*contd.*

policy, in accordance with which thousands of half-educated youths are turned out yearly who are becoming a danger to the body politic by adding to the ranks of the disaffected unemployed. This is a danger to which the Press of this country has been directing, attention for many years; but so far their's has been a "voice calling in the wilderness." To some extent this is the result of too much centralisation; and it is largely due to the fact that those responsible for the educational policy of the Government of India have been men whose training has not been of such a character as to impress them with the tremendous responsibility of the Government in this matter. It cannot be too strongly emphasised that in a country administered as India is, the people look to the Government for a lead in everything. So far the great aim seems to have been to increase the number of schools and the pupils attending them, regardless of other important considerations, and particularly whether the teaching staff was competent and the curriculum suitable to the requirements of the people. The tendency throughout the country has been to turn out the greatest number of passed candidates under a system of "cram" which has had the most disastrous results. The Education Commission of 1882 recommended "the introduction of a school course complete in itself and of a modern and practical character, freed from the domination of the matriculation examination." That recommendation has been systematically ignored. The Government of India recognise this fully now, and revised ideals are to be substituted for those which have found favour so far.

The outstanding features of the resolution under reference are the readiness of the Government of India to assist local Governments by large grants; not to centralise the provincial system, or to introduce superficial uniformity, still less to deprive local Governments of interest and initiative in education. This would seem to indicate that the Government of India are prepared to spend much larger sums upon education than in the past, and is therefore a matter for satisfaction. Apparently, the Government of India have appropriated a very large sum for this purpose. From what sources this money is to be provided is not stated; but the recognition of the claims of education upon the Indian exchequer is the first step towards placing education upon a sound basis. In the past education has been starved, while other schemes of less public utility have received liberal grants. It has been urged with painful iteration that one of the greatest needs of education is a competent teaching staff with remuneration consistent with the requirements of this service. If the teachers are not competent to impart the education necessary it follows that the taught will reflect the results of such teaching. Of all State departments, the educational is the most poorly paid, with the inevitable result that men of the proper stamp and standard are not attracted to that service. It is the same in private aided schools. It is satisfactory to find that the Government of India now fully recognise that few reforms are more urgently needed than the extension and improvement of the training of teachers for both primary and secondary schools in all subjects, including, in the case of the latter, science and oriental studies; and that the Government of India have for some time had under consideration the improvement of the pay and prospects of the education services, Indian, Provincial and subordinate. Indeed, we gather that proposals had actually been drawn up "when it was decided to appoint a Royal Commission on the Public Services in India." We have failed to understand why the administrative proposals should be dependent upon the findings of the Services Commission. It is stated that "the Government of India recognise that improvement in the position of all the education services is required so as to attract first-class men in increasing numbers; and while leaving questions of re-organisation for the consideration of the Commission, are considering minor proposals for the improvement of the position of these services."

The Public Services Commission will not go into the questions of the Education Service this year, but next, and will probably require a couple of years to sift the great mass of evidence they will have collected and to write their report, which will probably not be presented for another two years after that. So that it will be at least four years before the reorganisation of the Indian education service can be taken in hand. Meanwhile we are told that the Government of India "attach the greatest importance to the provision for the old age of teachers either by pension or a provident fund. Teachers in Government institutions, and in some areas teachers in schools managed by local boards, are eligible for these privileges. But it is necessary to extend the provision in the case

TIPPLE, E. F.—*contd.*

of board and municipal servants, and still more in the case of teachers of privately managed schools, for the great majority of whom no such system exists. It is not possible to have a healthy moral atmosphere in any school, primary or secondary, or at any college when the teacher is discontented and anxious about the future. The Governor-General in Council desires that due provision for teachers in their old age should be made with the least possible delay. Local Governments have already been addressed upon this subject." This is a move in the right direction, but it begins at the wrong end! On the subject of the education of the domiciled community we gather that the Government of India are prepared to adopt a far more liberal policy. They are, we are told, prepared to accept at once the view that the most urgent needs are the education of those children who do not at present attend school, and the improvement of the prospects of teachers. They are also disposed to regard favourably the proposal to erect a training college at Bangalore with arts and science classes for graduates' courses attached to it. They recognise that grants-in-aid must be given in future on a more liberal scale and under a more elastic system. They will recommend to local Governments the grant of a greater number of scholarships to study abroad. The proposals to re-classify the schools, to introduce leaving certificates, to include in the course of instruction general hygiene and physiology, special instruction in temperance, and the effects of alcohol on the human body, and the other detailed proposals of the Simla Educational Conference, will be carefully considered on the lines of the opinions of local Governments when they have been received. We are particularly gratified to find that a course of instruction in physiology is to be introduced in European schools. This is a most important reform, as a knowledge of physiology may be calculated to save youths a deal of life-long misery. On the whole, we view with satisfaction the new educational policy of the Government of India.

APPENDIX III-F.

Comparative statement concerning the establishment and salaries of the senior branches of the educational service immediately before, and after, the re-organisation of 1896 compiled from Appendices A and B of the Government of India, Home Department, letter No. 4 Education-204—215, dated Simla, the 23rd July, 1896, which was published in all the Government gazettes.

Establishment.

Indian Service, including old graded scheme.	Madras.	Bombay.	Bengal.	North West Provinces.	Punjab.	Central Provinces.	TOTAL.
No. of Officers on Rs. 500-50-750	8	5(*a*)	16	4(*c*)	3	2	38
,, ,, 750-50-1,000	4	5(*b*)	11	3	3	1	27
,, ,, 1,000-50-1,250	2	3	6	4	2	*Nil.*	17
,, ,, 1,250-50-1,500	1	2	2	1	*Nil.*	1	7
,, ,, holding special appointments	4	6	..	*Nil*	1(*d*)	..	11
Total No. of appointments	19	21	35 ambiguously shown as 27 in Appendix A.	12	9	4	100
NEW SCHEME. Total No. of Officers on Rs. 500-50-1,000.	14	14	26	11	7	5(*e*)	77
Allowance of 200-10-250	2	2	2	1	1	*Nil.*	Included in the above total 77.
,, ,, 250-50-500	2	3	3	2	1	1	

(*a*) Including 3 officers on Rs. 700 p.m., and 1 on Rs. 500-50-700 p.m.
(*b*) ,, 1 officer on Rs. 800 p.m., plus a personal allowance of Rs. 250 p.m.
(*c*) ,, 4 officers on Rs. 600 p.m.
(*d*) ,, 1 officer on Rs. 800 p.m. (Principal, Mayo School of Art.)
(*e*) ,, 1 officer on Rs. 1,250-50-1,500.

TIPPLE, E. F.—*contd.*

Cost per mensem.

	Madras.	Bombay.	Bengal.	N. W. Prov.	Punjab.	Cent. Prov.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Indian educational service,—old scheme, total cost.	18,250	17,300	34,350	11,233⅓	7,883⅓	4,033⅓
Ditto new scheme	16,893⅓	17,166⅔	23,333⅓	9,683⅓	6,650	5,283⅓
Indian and Provincial educational services, old scheme.	28,006⅔	28,987⅓	57,700	17,810	12,966⅔	5,133⅓
Ditto new scheme	27,743⅓	25,566⅔	52,583⅓	17,433⅓	12,750	6,516⅔
SAVING .	263⅓	3,421	5,116⅔	376⅔	216⅔	—1,383⅓

TOTAL SAVING—Rs. 8,011 per mensem or nearly 1 lakh per annum.

APPENDIX III-G.

The "Pioneer," Allahabad, November 3rd, 1912.

INDIA IN PARLIAMENT.

The following questions were asked in the House of Commons during the mail week :—

Indian Educational Service.

Sir J. D. Rees asked the Under-Secretary of State for India : If he will state the conditions of service, pay, and pensions in the Indian educational service ; whether the pensions and average rates of pay in this service are lower than in any other of the Imperial services of India ; whether, as a consequence of this, the service is regarded as an inferior branch of the public service ; and whether, in view of the importance of securing the best possible men from our universities for the work of education in India, the Secretary of State will take steps to render that service more attractive.

Mr. Montagu : The conditions of service, pay, and pension in the Indian educational service are published in the annual India Office List. The ordinary scale of pay is Rs. 500 a month, rising by increments of Rs. 50 to Rs. 1,000 a month. There are, in addition, certain junior allowances of Rs. 200 to Rs. 250, and senior allowances of Rs. 250 to Rs. 500. Directors of public instruction receive pay ranging from Rs. 1,250 to Rs. 2,500 a month. The pension rules are, with an important exception, in favour of this department, the ordinary rules for pension in civil departments other than the Covenanted Civil Service. Indian educational service officers are, exceptionally, allowed to reckon as service for superannuation pension the number of completed years, up to five, by which their age at appointment exceeded twenty-five years. An Indian educational service officer becomes eligible for a pension on completing thirty years' qualifying service or on attaining the age of fifty-five. The maximum amount of pension for twenty-five years' service or upwards is Rs. 5,000 a year. Directors of public instruction who have rendered not less than three years' approved service in that office are eligible for an additional pension of Rs. 1,000 a year. Invalid pensions are on the ordinary scale, one-sixtieth of average emoluments, subject to prescribed maximum, being granted for each year of service up to twenty-four, and half average emoluments, subject to a maximum of Rs. 5,000, for twenty-five years upwards. The Secretary of State fully realises the importance of attracting the best class of recruits. The initial pay of the service is exceptionally high, and the terms of pension identical, subject to the advantage as to reckoning years for service described above, with those existing in all other Imperial civil departments (other than the Indian civil service), except that members of three departments can retire voluntarily after twenty-five years' service on full pension, a privilege not possessed by the generality of civil departments. There is no reason to suppose that the Indian educational

service is regarded as an inferior branch of the public service, but an examination of the conditions of service in this and other civil departments is covered by the terms of reference to the Royal Commission recently appointed.

INDIAN EDUCATIONAL SERVICE.

The "Pioneer," Allahabad, November 29th, 1912.

To

The EDITOR.

Sir,—Mr. Montagu's reply to Sir J. D. Rees' question in the House of Commons with regard to the conditions of service, pay and pension of the Indian educational service illustrates the well-known fact that a perfectly accurate statement may be entirely misleading. The reply shows that members of only four civil services, including the Indian civil service can retire voluntarily on full pension after twenty-five years' service, but obscures the fact that the four services thus privileged comprise all the Imperial services recruited in England except two, the police and the educational. Men in the telegraphs, forest and public works all enjoy this privilege, and some of them have the option of voluntary retirement on reduced pension after twenty years. The Indian medical service and Government chaplains are similarly favoured.

Mr. Montagu omits to mention the slight put upon the educational service by its position in the Order of Precedence. Under present conditions a man may be so blocked for promotion that he comes into the table only after fifteen years' service. Then he is graded with men of other services many years junior to himself and on much lower pay, and he has every prospect of getting no higher.

What recruits think of the conditions of service may be estimated from the fact that in one province alone, with a cadre of not more than sixteen I.E.S. men, four men resigned in four years before the completion of their probationary term. The discontent in the service is so serious that the offer of pension after twenty-five years would probably induce every senior man below the rank of Director to prepare for his retirement as soon as he had completed that term. Yet it is impossible to keep the educational service and the police in a position of permanent inferiority to other Imperial services in such an important respect. The difficulty of recruiting suitable men is increasingly felt at the India Office, the causes are well known, and the remedy obvious. The Government of India considered the matter in 1909 and the knowledge that Government had begun to move caused the service to refrain from a general memorial. After a delay of three years the deliberations of the Government produced a press *communique* stating that no action would be taken pending the report of the Royal Commission, which includes a man so unsympathetic to the I.E.S. as Sir Valentine Chirol.

This is hardly the best method of stimulating men to the greater zeal and energy which will be necessary to the satisfactory realisation of the far-reaching schemes for educational progress outlined at the Coronation Durbar.

ORBILIUS.

APPENDIX III-H.

The "Pioneer," Allahabad, February 27th, 1913.

FOREIGN INTELLIGENCE.

PUBLIC SERVICES COMMISSION.

Criticism in the "Times."

[Reuter's Press Messages.]

LONDON, *25th February.*

An article in the *Times* to-day criticises the Public Services Commission, declaring that it is taking too narrow a conception of its objects. The article says reports of the sittings of the Commission lead to the conclusion that unless the Commission's methods are drastically altered they may cause a serious increase in racial bitterness. After quoting

TIPPLE, E. F.—*contd.*

the terms of reference as seeming on the surface admirable the article emphasises that the Commission has not to confine its enquiries to the covenanted service. The article refers as being mischievous to the manner of putting to witness questions the purport of which is, "Do you think the Indian is as good a man as the Englishman" The writer considers that these vague wounding questions serve no useful purpose. They will certainly not lead to the reform of existing defects.

Alluding to the inquiry into the working of Indian courts the article repeats that such an enquiry can only be conducted by English judges of great eminence. The writer thinks that the investigations of the Commission touching Indian courts should be severely restricted. The writer considers that Lord Islington in his opening speech struck a false note. The true functions of the commissioners do not lie in the direction of discussions of the relative mental and moral qualities of the two races, with which some of the most important problems in connection with executive administration have nothing to do. The Commission remains wholly oblivious of many grave questions, including the question whether the developing needs of India now require that members of the covenanted service should be specialised almost from the beginning or whether the old tradition feasible enough a century ago, that the Indian administrator should be a handy man able to turn his talents in any direction, should be preserved.

APPENDIX III-I.

"*Truth*," *London, February 12th, 1913.*

No doubt the Indian Public Service Commission will enquire into the grievances of educational officers in regard to their pay, etc.; but the more important question of general reform of Indian educational policy and administration will apparently be outside the province of the Commission. Yet, as I know from correspondence that reaches me, this is a matter on which members of the educational service are exercised quite as strongly as they are on the subject of salaries, promotions, and pensions. It is true that there is now a new Education Department at the headquarters of the Government of India, under the charge of an Indian Civil Service Member of Council, with a second I. C. S. Officer as senior Secretary. The constitution of the department, however, is unsatisfactory.

In point of fact, the new Department was established hurriedly to avert a threatened agitation for a more effective measure, and its working has only helped to confirm the view that there can be no real reform of Indian educational methods without the formation of a strong and independent educational service on the lines of the Public Works Department. As things are, educational officers possess no authoritative position in which they can take an effective control of the educational policy of the country. They are kept in a subordinate place because in high quarters the attitude towards their work is unsympathetic, the idea being that education makes the Indian more difficult to govern rather than better worth governing.

APPENDIX IV-A.

MINUTE ON THOMASON COLLEGE PREPARED BY MR. E. F. TIPPLE FOR SUBMISSION TO THE PUBLIC WORKS DEPARTMENT RE-ORGANISATION COMMISSION, 1917.

Relation of Thomason College to Coopers Hill.

The Thomason College is the oldest of the Indian engineering colleges and was founded in 1847, owing its origin to a training school for artisans started at Roorkee in 1845. The College is, therefore, antecedent to Coopers Hill, which was founded in England in 1871, and with which the Indian college was on an equal footing in the matter of training men for the Public Works Department up to 1894, when the introduction of the Provincial service system relegated Roorkee to a definite position of inferiority.

The constitutions of the two colleges, Thomason College and the Royal Indian Engineering College, were almost identical, but differed fundamentally from the type adopted at the engineering schools of British universities.

TIPPLE, E. F.—*contd.*

Object of this minute.

This fundamental difference lies in the fact that at Thomason College and the Royal Indian Engineering College educational management has never existed, while at the Engineering schools attached to modern universities such management always predominates. It is the object of this minute to bring forward the evidence for this statement so far as it affects Roorkee, and to endeavour to make clear the preponderating advantages attaching to the system in vogue at university engineering schools in the West.

State of technical education at time of founding Thomason College.

Both Thomason College and the Royal Indian Engineering College were originally founded to enable the Indian Government to recruit suitably for their Public Works Department. In 1854 when, owing to the exertions of Mr. Thomason, the Roorkee College was first placed upon an adequate basis, technical education was in its infancy and such chairs of engineering as existed at British universities were of recent creation. Matters were somewhat more advanced in 1871 when Coopers Hill was started, but no widespread development of technical education occurred in England before the foundation of the City and Guilds of London Institute in 1878. It follows, therefore, that the constitution adopted at Roorkee and at Coopers Hill must be regarded as merely tentative rather than the most suitable for colleges of their nature.

System of control adopted at Thomason College and at Coopers Hill.

In both cases a non-educational principal or president was recognised by Government as the officer solely responsible for the efficient working of the college, and under his orders the educational staff were placed for the purpose of carrying out such commands as might be issued to them.*

Later developments of technical education.

This system naturally presented few disadvantages so long as technical education was in its infancy, before any suitable technique existed, and while principal and staff were equally in the position of tentative workers and one man's opinion was as good as another's. But in the late seventies and early eighties many workers in the field of technical education begun to appear. Professor Rankine's work at Glasgow began to bear fruit, the truths enunciated in his dissertation on *The Harmony of Theory and Practice* began to be appreciated and the close relationship existing between pure and applied science came to be realised in certain quarters.

Later engineering schools adopt system of control better suited to educational needs.

The later engineering schools developed a constitution more calculated to make full use of this relationship, and the courses of study in such institutions began to be arranged in well defined and properly co-ordinated groups. Responsibility for the efficiency of an engineering school could no longer be placed upon the shoulders of one man; it rested with a board of studies or faculty of engineering through which alone the proper co-ordination required could be secured. Under such a system of development the engineering schools of the City and Guilds of London Institute and of certain British universities, came into existence.

Such a system of educational control never existed at Coopers Hill, nor at Roorkee.

Secretary of State's recognition of need for modification at Coopers Hill.

Thus, so far as Coopers Hill is concerned, Sir W. Anson in a letter to the Secretary of State for India, dated 6th March 1901, wrote—

> "It is now possible, and has actually happened, that a teaching staff of long experience, willing and competent to teach, may find their scheme of studies altered and the dismissal of some of them determined upon, without a hearing by the president."

To which the Secretary of State in his reply, dated 11th March 1901, answered—

> "It is clear to me that the channels of communication between those actually teaching and those in authority over the teachers, *viz.*, the president and visitors, should be widened and quickened."†

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* Sir Oliver Lodge writing in "The Times" of 20th February 1901 stated with reference to Coopers Hill—"The Indian Government has attempted to run the College on military and autocratic lines, and though it had eminent educational specialists among its professors it has not attempted to consult them or form them into a senate or a responsible board of studies or give them any voice in its management."

Also in Government Order No. 2365, dated 11th December 1916, Industries Department, United Provinces, to Government of India, it is stated with reference to Roorkee—"His Honour was particularly anxious to have an Engineer with practical experience *in command* at Roorkee."
No. 6186—50.

†*Vide* Blue Book Cd. 539, dated 1901, pages 2-3.

TIPPLE, E. F.—*contd.*

This eventually led, in the case of Coopers Hill, to an officially constituted board of studies being called into existence, eighteen months before the abolition of the college, and thus too late to make its influence felt on developments there.

Modifications attempted at Roorkee to meet educational needs never satisfactorily inaugurated.

At Roorkee, about 1894, when the college was affiliated to the Allahabad University, a faculty of engineering was necessarily created, but this was allowed to die of inanition since Government failed to realise the necessity for ensuring a sufficiency of fellows competent to serve on such a faculty.* Moreover a college board of studies has, through the course of events at Roorkee, come unofficially into existence chiefly owing to the educational difficulties incident to the college work, but this board possesses no official authority and consequently their considered opinion can always be set aside.

The whole history of Thomason College, since its reorganisation in 1894-96, illustrates how the guiding authorities persistently ignored the results of educational experience and declined in any way to allow educational control to become a reality.

The Colvin scheme of reorganisation.

In 1891, Sir Auckland Colvin's attention having been directed to the need for extending considerably the facilities available for technical education, he appointed a committee which made an exhaustive examination of the position.

Upon the findings of this committee he wrote—

> "The recommendations of the Committee may be divided into two distinct classes: *first*, those which it is possible to carry into effect with little or brief delay; and *second*, those which are in great measure necessary to the full carrying out of the first category, and partly independent: but which all permit of being postponed for more mature consideration. The recommendations which fall into the first of these two classes are *firstly*, the reorganisation of the Thomason Engineering College, *secondly*, the institution by the Education Department, or by the University, of a school final examination for the modern classes of high schools: *thirdly*, the establishment of industrial schools at Roorkee, Lucknow or Allahabad."
>
> "The recommendations which fall under the second category are these: *first*, the establishment of a school of art at Lucknow; *second*, the establishment of an agricultural school at Cawnpore; *third*, the establishment of a teachers' central training college at Allahabad."

All these recommendations have since been brought into effect and all are admitted to be bearing good fruit, with the single exception of the reorganisation of Thomason College. The reasons, therefore, for the failure of the recommendations in this particular instance, need very careful examination and a suitable opportunity for this is afforded by the appointment of the present Public Works Department Reorganisation Commission.

Its recommendations concerning Thomason College.

The recommendations regarding the reorganisation of Thomason College were as follows:—

(1) The transference of control from the Public Works Department to the Education Department.
(2) Affiliation to the Allahabad University.
(3) The formation of a committee of management consisting of the Chief Engineer to Government, United Provinces, Public Works Department, Buildings and Roads Branch, the Director, of Public Instruction, and the Principal.
(4) The strengthening of the educational staff by the appointment of Indian educational service officers as professors.

The report and recommendations of the Colvin committee clearly indicate that the trend of the developments foreshadowed was the establishment at Roorkee, upon a thoroughly scientific basis, of an educational centre for higher technological work. Further that this centre should be in touch with industrial schools for low grade work suitably scattered throughout the provinces, upon which the Principal of Thomason College was required to report after periodic inspections. In confirmation of this it is stated in letter No. 266, dated Simla, 27th August 1903, Government of India, Finance and Commerce Department to the Secretary of State, that the Thomason College was "developing into an industrial and technical institute which will control and stimulate teaching of all kinds in the United Provinces."

* *Vide* paragraph 5 of Government Order, United Provinces, No. 2365-Industries Department, dated 11th December 1916.

TIPPLE, E. F.—*contd.*

Failure of the controlling authorities at Roorkee to understand the nature and import of the findings of the Colvin Committee. These same authorities discredited by Government of India for their inability to appreciate the value of educational experience.

The principal developments, however, which actually took place at Roorkee between the years 1894—1904, were in connection with the introduction of industrial and mechanical apprentice classes which were all of a distinctly low grade type. The mere presence of such classes at Roorkee was sufficient to indicate that the Thomason College, instead of exerting any stimulative influence on industrial schools through the inspecting duties devolving upon its principal, was in reality entering into competition with them and developing into a formidable rival of such schools.

In 1901 a committee of enquiry, presided over by the principal of Thomason College, was appointed to examine into and report upon the whole question of industrial schools; the findings of this committee, however, were, subsequently, entirely discredited by the Government of India in a resolution, dated 14th January 1904, wherein it was stated—

> "The Government of India are unable to find in the argument advanced by the Committee, in the example of other countries, in the opinion of expert witnesses, or in practical experience in India, any reasons which would justify them in sweeping away the present industrial schools, and substituting the system described in this report."

It must be admitted that such criticism very clearly shows that educational evidence and educational experience possessed little or no value in the eyes of the controlling authorities at Roorkee from the time of the inauguration of the Colvin scheme of reorganisation up to 1901.

Independent recognition of this by the local Government, but measures introduced for improvement, are inadequate.

The Government of the United Provinces itself recognised that the system of control in vogue at Thomason College was inadequate to deal with questions of educational detail, and in 1901 they instituted a college council to consist of members of the teaching staff, and to be associated with the principal "in regulating the courses of study, the selection of text-books and other matters which cannot be conveniently and effectively dealt with by the Committee of Management."

These intentions were frustrated from the start by reason of the defective constitution framed for the Council, which, for all practical purposes, reduced it to a nullity.

The fact that the management of educational matters at Roorkee was unsatisfactory received further confirmation in 1905 when a discussion took place in the Allahabad Senate upon the question of the abolition of the Faculty of Engineering. It was then stated * that—

> "The College of Engineering at Roorkee is not what such an institution should be. Roorkee College, as an educational institution, is very far from being satisfactory, and the responsibility for this rests upon the Government. It is mainly officered by Royal Engineers who have had no special training for their work. Until this college is thoroughly reformed and its work put upon a sound educational basis, we, as a university, ought to refuse to give it recognition and hence to decline to establish a Faculty of Engineering."

Failure of technical class due to neglect of educational details and inability to appreciate the value of educational experience.

Moreover, the subsequent history of the college, since 1905, shows that there has been no improvement in this vitally important matter. In 1906 the Government, United Provinces, made a further endeavour to develope high grade technological work at Roorkee and, with this object in view, a technical class was started at Thomason College in October 1906 in accordance with a scheme outlined in Resolution No. $\frac{501 \text{ of } 1906}{XV-413-54}$, Education Department, United Provinces.

This resolution shows that the object of the technical class was to provide a higher grade of training than that available in the mechanical apprentice class, but the ideas of those responsible for the scheme were very vague and confused, completely lacking the definition necessary to launch such a project with success. Students, however, were collected before any clear scheme had been formulated and before the teaching staff had been in any way notified of the extra duties expected from them. Shortly after the class started, proposals for the arrangement of systematic courses of instruction were brought forward by the educational staff, but these were all ruled out as inopportune, and the principal was satisfied to allow the new students to work side by side with the mechanical apprentice class.

* *Vide* Proceedings of Allahabad University Senate Meeting held 14th January 1905.

TIPPLE, E. F.—*contd.*

The full story of the class is given in the Annexure A, prepared by the Thomason College Board of Studies, which came unofficially into existence owing to the educational difficulties which arose in connection with this same class. The whole case exhibits very clearly how those responsible for the management of the College were entirely unable to recognise the educational difficulties connected with the work and the value of educational experience in determining possible solutions of such difficulties. In the space of ten years (1906-16) these same classes were started, abolished and restarted on three distinct occasions at Roorkee, the only difference introduced being merely one of name. Moreover, during this very period, in 1909, the *college was in reality transferred from the Education Department and placed under the Industries Department*, the budget alone being left with the Education Department. The treatment accorded to the technical class was, unfortunately, of such a kind as to warrant the outside public in assuming that there was an attempt to stifle high grade technical education at Thomason College. The responsibility for this, however, rested not with the educational authorities, but with those in administrative charge, who failed to realise the necessity for consulting the educational staff when seeking to solve educational difficulties.

Recommendations of Colvin scheme of reorganisation only nominally carried into effect.

Although Thomason College was nominally transferred from Public Works control and placed under the Education Department in 1893, the original system of control has continued to persist up to the present time. Thus Government deals with the college through the Committee of Management, the President of which is Chief Engineer, Public Works Department, Buildings and Roads Branch, and who is likewise Secretary to Government in the Public Works Department. Education is represented on the Committee of Management by the Director of Public Instruction, through whose Department all correspondence relative to the college should pass, if the college were really under educational control. This educational safeguard, however, no longer exists since, as mentioned above, the college with the exception of its budget, has been placed under the Industries Department from 1909.

Non-educational system of control at Thomason College left unaltered.

Moreover, the final educational safeguard introduced in 1893 by affiliation with the Allahabad University and the creation of a faculty of engineering is non-existent, owing to the abolition of this faculty in 1905. Consequently, so far as Government is concerned, the college is under the joint control of the Public Works and Industries Department, and educational influence can only be exerted through indirect channels.

The procedure adopted at another professional college is in distinct contrast with the case of Thomason College. The affiliation of the Medical College, Lucknow, to the Allahabad University, was accompanied by the creation of a medical faculty consisting very largely of members of the teaching staff of the college. In the case of Roorkee no member of the teaching staff was ever placed on the Faculty of Engineering, and owing to this circumstance that Faculty died of inanition. Through the Medical Faculty, which, as constituted is an active reality, a measure of educational control exists at the Medical College; at Roorkee this has never been the case.

The system contrasted with that adopted at Medical College, Lucknow.

Finally with respect to the courses of training existing at Thomason College it is stated in paragraph 6 of Government Order No. 2365 (under reference above) that—

Government's dissatisfaction with Thomason College.

> "It is in the judgment of the Lieutenant-Governor imperative that there should be at Roorkee, at the present juncture, a principal who can tell from the practical experience of working with Roorkee men, what are the defects in the course or what are the conditions which are responsible for the unquestionable deterioration in the product of the college."

In view of the evidence already given in this minute, it is respectfully submitted that in any examination of the questions raised by this statement from the local Government, the unofficial Board of Studies of Thomason College should be allowed full opportunity of presenting their opinions for the consideration of any duly appointed investigating authority. Educational questions of no inconsiderable importance are raised under such an enquiry, and unless educational officers be given full opportunity for presenting their side of the issue, there will be distinct danger of their being held responsible for certain undoubted defects which exist in the courses at Roorkee, for the presence of which, however, these officers are in no way answerable.

Importance of educational questions raised.

TIPPLE, E. F.—*contd.*

Misleading statements current in India regarding unsuitability of educational officers for duty at technical institutions.

Untenable statements have already been made on high authority in India regarding the unsuitability of educational officers for duty at technical institutions. Thus Sir Edward Buck, in his report on "Practical and Technical Education", dated 1901, stated that—

> "Educational officers, however able and accomplished they may be, have themselves had no practical training, are not brought by their profession into contact with industrial occupations, *have no technical knowledge.*"

This statement is very misleading, since it entirely fails to discriminate between educational officers brought out for purely scholastic work and those recruited specially for service at technical institutions. All four educational officers at Roorkee, for instance, were possessed of, and selected for, their previous technical training before coming to India. The conclusions of Sir Edward Buck have produced a settled conviction in India that technical education must be divorced from general education and placed under entirely distinct control. This overlooks the fact that those technical institutions, which have done most for industrial development in western countries, have been institutions in charge of educationalists possessed of technical training and experience.

Improvements introduced at Thomason College by such officers.

At Roorkee, since the appointment of Indian educational service officers to the staff, certain gradual changes have been inaugurated which have all tended to bring the courses at Thomason College more into line with those at western engineering schools. Regular courses of lectures have been introduced, the work has been arranged in well-defined groups, an informal board of studies has been brought into existence, which has already justified itself by drawing up a scheme for the affiliation of the college to the Allahabad University, which has received the approval of the Committee of Management of which the Vice-Chancellor of the University was a co-opted member at the time. In accordance with opinions promulgated by educational members of the staff, much of the low grade work, previously existing at Roorkee, has by Government order been removed to more suitable centres.

Insecurity of educational position.

At the same time the educational position is insecure, in view of the evidence already given; and schemes for educational changes at Thomason College can still be initiated and accepted without the educational complexities involved ever being properly considered. This has occurred in recent years with disastrous results on three distinct occasions in the case of the technical classes (*vide* Annexure A). It seems likely to occur in the case of the civil engineer class for the following reasons:—

Nature of Government's dissatisfaction with Thomason College and its causes.

> The dissatisfaction, felt in the Public Works Department with the products of this class, usually takes the form of an accusation that the students are unpractical when sent out on works. Such failure can only be due to two causes—unsuitably arranged courses in Civil Engineering; unsuitably arranged apprenticeships.

With regard to the first it may be noted that the courses in civil engineering are the only existing courses at the college which have never been modernised under educational direction. They belong to that group of studies which has never been placed, at Thomason College, under the control of an *engineer with educational experience*, as is the custom at western engineering schools.

Remedy lies in Educational control.

The civil engineering courses are unduly cumbered with subjects which are of little educational value for engineers, but which are possibly calculated to add to the immediate utility of the students in routine matters when he first goes on apprenticeship to the Public Works Department. This especially applies to estimating and accounts, and in a minor degree to drawing and surveying. It may be noted that this is an exact repetition of the conditions which prevailed at Coopers Hill (*vide* paragraph 23 Report of Final Commission and Minutes of Evidence).

Such so-called practical subjects are apt to gain undue prominence in professional courses of instruction when these are arranged under the control of the Department which is required to make use of the professional product so trained. Practical experience on works is not in itself a sufficient qualification for the discharge of duties connected with the educational management of a technical institution. Such experience is too apt to lose sight of the fact that it cannot itself be acquired at any college, it can only be gained on professional work. No technical college, however efficient, can turn out the finished professional product; the college course must be followed by a genuine period of apprentice-

TIPPLE, E. F.—*contd.*

ship. The advantage of the college training lies in the fact that it enables the recipient to acquire sound practical experience on works more rapidly than is otherwise possible. This advantage, however, only exists when the college training has been genuinely educative, *i e.*, concerned with the explanatory treatment of questions of scientific principle underlying the practice of the profession, and not with the mere memorising of items of professional routine. Confirmatory evidence on these points is forthcoming in the opening address delivered by Dr. W. C. Unwin, an acknowledged authority on the subject, at the Conference convened by the Institute of Civil Engineers on the 29th June 1911 for the discussion of certain details connected with the education and training of engineers.

With reference to the second point—suitable apprenticeships—there has undoubtedly existed in the Public Works Department a tendency to compare the Roorkee trained students with the imported Imperial service engineer, during the first year of service. This is obviously unfair to the Roorkee man, who, during his first year, is undergoing his apprenticeship and must therefore, in fairness, be regarded as still in *statu pupillari* whereas, the Imperial engineer is supposed, on appointment, to have already had a certain minimum of practical experience on engineering works. Properly arranged system of apprenticeships.

One further point worthy of consideration in this connection is the introduction of the Provincial service system and the consequent degradation of the status of Roorkee College. This has naturally compelled all, who seek employment in the Public Works Department, to prefer the worst engineering school in Britain to the best that can possibly be provided in India.

These are the points of educational importance which my experience at Home and in India compel me to submit for careful and impartial investigation. This minute has, therefore, been prepared for the purpose of bringing these matters forward for the consideration of the Public Works Department Re-organisation Commission, which, under item VII of the terms of reference, is required to investigate—

> "Whether the system of education in Government engineering colleges is organised on a sufficiently broad basis."

ANNEXURE A.

NOTE ON THE TECHNICAL CLASSES AT THOMASON COLLEGE, PREPARED BY THE BOARD OF STUDIES IN CONNECTION WITH THE NEW CLASS STARTED IN OCTOBER 1915.

In 1905, during the regime of Sir J. Digges La Touche, correspondence passed between the local Government and the Government of India, with the object of starting a technical class at Roorkee. This new class was to provide training in mechanical and electrical engineering, and also in applied chemistry, for which, Government had every reason to consider that there was a real demand. In the correspondence referred to it is clearly indicated that the instruction, for which provision was about to be made, was to be of such a standard as ultimately to fit men for positions of responsibility on works, or in engineering establishments; and, so far as electrical engineering was concerned, definite mention was made regarding the openings likely to be available for well-trained men in connection with the electric-power installation in Cawnpore, and also the electric-power schemes then under consideration for Lucknow and Allahabad, to which Mussoorie and Naini Tal might also have been added.

REFERENCES.
No. 502, dated 1st September, 1905, from Secy. to Govt. of India (Home Dept.), to Secy. to Govt., United Provinces.

Resolution, Ed. Dept., U. P. No. 501 / XV.—413-54 of 1906.

A perusal of resolution No. 501 of 1906, conveying sanction to the establishment of this new class, shows beyond doubt that it was intended that the instruction to be given was to be of a distinctly higher standard than that already provided for in the existing mechanical apprentice class.

Unfortunately, in the correspondence cited above, the terms foremen, supervisors and overseers are confused with managers and investigators, and this clearly evidences that the precise nature of the training necessary for foremen and managers was not at all understood by those responsible for the launching of the new scheme. It was not understood, for instance, that foremen are simply reliable mechanics, with ability to control their fellow-workmen, in their own particular line of trade; whereas the managers of

TIPPLE, E. F.—*contd.*

engineering establishments are men of higher educational and professional attainment. It was the failure to comprehend this important educational detail, until it was too late, that led directly to the failure of this first scheme.

U. P. Government Resolution No. 1329/XVIII.—52 Ind. Dept., dated 6th September 1909, para. 3.

The first technical class opened at Roorkee in October 1906, with 35 students, but Government fixed 30 as the number to be admitted in each subsequent year. The new class contained many promising candidates, but considerable diversity in educational qualifications existed among the students at entrance. This was due mainly to the fact that admission to the class was through nominations made by the Commissioners of the different divisions. This difficulty could, however, have been easily overcome, either by a more careful system of nomination, or by the institution of an entrance examination.

The next step of importance in connection with this class took place on the 3rd of April 1907—some six months after it had been at work—when at a meeting of the College Council, held on that date, proposals were put forward by certain members of the professorial staff, responsible for the actual teaching work, for making proper arrangements for systematic courses of instruction, but all the proposals then submitted were ruled out as inopportune. From its commencement, the technical class worked side by side with, and on exactly the same lines as, the mechanical apprentices. Trouble, however, only arose, when the technical class students reached their third year, and then discovered definitely for themselves that the entire course was precisely the same as that laid down for the mechanical apprentices. Deputations from the 70 odd students then on the rolls, waited on the members of the professorial staff, and feeling ran very high, owing to the fact that the students considered that they had been deceived; they had come to the college expecting to be trained in the higher branches of certain professions; and, instead, they had been trained simply as mere mechanics. The dissatisfaction was great, and it was only by sympathetic and tactful dealing with the situation that unpleasant consequences were averted. Hurried arrangements had to be made for courses in science for all three years simultaneously, and such arrangements taxed both the resources of the college, and the teaching staff concerned.

The third year students were invited back for a fourth year. Subsequently, questions were asked in Parliament, bearing upon the unsatisfactory character of the instruction provided, *e.g.*, Sir J. D. Rees asked the Secretary of State for India (*Pioneer*, 12th April 1908)—

> "Whether in view of the fact that the education supplied at modern engineering colleges is of a complex character, requiring a carefully prepared curriculum of a highly specialised nature, and that the technical classes started at Thomason College, Roorkee, under Resolution No. 501/XV.—413-54 of 1906, dated the 6th of June 1906, and published in the United Provinces Government Gazette were intended to educate men for subsequent position as managers of factories, the Government of India approves the resolution of the Government of the United Provinces in which it is stated that there will be no cut-and-dried curriculum; and whether the Secretary of State will cause inquiries to be made for the purpose of ascertaining whether the educational scheme characterised by the absence of a cut-and-dried curriculum is giving satisfactory results."

As the result of all the dissatisfaction which occurred in connection with the new technical class the then Lieutenant-Governor, Sir J. P. Hewett, visited Roorkee and met the members of the Committee of Management when it was decided that the class should be immediately abolished. The reasons assigned for the failure of this class were: that it had been started prematurely, that much confusion existed as to its real objects. This latter point is of extreme importance, and, moreover, its significance was clearly recognised by Government, since, in order to make it quite clear it was stated in paragraph 2 of letter No. 601, dealing with the question, that—

No. 601 Ind. Dept., dated 20th March 1909, *vide* file No. 52 Ind. Dept. Proceedings, 132-133 of 1909.

> "The Lieutenant-Governor, Sir J. P. Hewett, is of opinion that it is quite wrong in placing foremen, supervisors or overseers on the same plane as managers and investigators. If the ordinary workman is compared to a private soldier

TIPPLE, E. F.—*contd.*

the foreman, who is substantially of the same class, is a non-commissioned officer. The workman is provided for in industrial schools, the foreman in your mechanical apprentice class; perhaps that class, or some portions of it, may subsequently be transferred to industrial schools, but that is a separate question. The Technological Institute is to be the industrial Sandhurst, and *its object is to train the officer class of the industrial army, the men, who by status, education or possession of capital are fitted to be leaders.*"

Particular attention should be directed to that portion of the quotation which is in italics, since the fact that the technical class was for the training of men of education and satisfactory status, was subsequently entirely overlooked, and the sole view taken was that the only possible means of making the class a success was to fill it with sons of capitalists.

As a result of the first technical class fiasco, a board of studies, consisting of the professorial staff as members, first came into existence. It held its first meeting on the 8th of December 1908, when proposals for a new technical class were formulated. These proposals were approved by the College Committee of Management, and Government sanctioned the starting of a second technical class in October 1909, termed the higher division of the Department of Technology, the mechanical apprentice class constituting the lower division.

In view of the dissatisfaction, which occurred in connection with the first technical class, it was not surprising that only a few candidates offered themselves for admission to the higher division of the Department of Technology. Nevertheless, a few men of the right type were forthcoming, and among them were several Europeans, which fact could not be regarded as a drawback, since, if the Europeans were able to obtain substantial appointments at the end of their course, then the Indians would very soon compete for entrance to the class. Two students succeeded in completing satisfactorily the prescribed three years' course, and these—Mr. Thick and Ghulam Muhammad, both obtained the final or honour's certificate in mechanical engineering at the examination held by the City and Guilds of London Institute. In the following year, 1914, Mr. Capstick did likewise. Now, these examinations represent a high degree of professional attainment, and no difficulty has been found in securing suitable employment for all the men turned out from this class, whose professional qualifications are equal to those of any home-trained engineers. From the very outset, however, the second technical class, called the higher division of the Department of Technology, did not, in the opinion of the professorial staff, receive the encouragement it deserved. It was pronounced a failure; nominally on the ground that the sons of capitalists were not forthcoming in considerable numbers to be enrolled as students, thus entirely overlooking the fact that the class was equally designed for the needs of men possessing the necessary status and educational attainment. The actual teaching staff considered the results of the higher division of the Department of Technology highly encouraging, and are fully convinced that a little sympathetic treatment on the part of the authorities, *e.g.*, advertising in the papers and posting of circulars to schools, etc., was all that was necessary in order to render it a success. Moreover, in the circumstances, it was far better to start with a small number of students of the right type, for whom suitable openings could be found, than to secure large numbers of unsuitable men for whom no employment would be obtainable. Most of the larger and well-known institutions in the West, commenced work with very few students; for instance, the Mechanical Engineering Department in the Manchester School of Technology had only two students during the first year of its formation. It is found that the number of students rapidly increases as soon as an institution has established a reputation for turning out men of a high standard of professional efficiency, who are soon able to secure remunerative employment. For this reason it is an advantage to start with a few students of the right type, and it is seldom that the men thus available are the sons of capitalists.

See also para. 8, U. P. Govt. Resolution No. $\frac{72}{\text{XVIII.}-368}$ Ed. Dept., dated 12th January 1914.

Government has now sanctioned the starting of a third technical class for the training of what is to be known as the "improver grade" of engineer, and some nine students joined the class for the first time at the commencement of the session in October 1915.

No. $\frac{603}{\text{XVIII.}-527}$ Ind. Dept., dated 4th March 1915.

TIPPLE, E. F.—*contd.*

The advisability of such a start was considered at the first meeting of the Board of Industries held in Lucknow on the 5th December 1914, when it was resolved " that the Board is of opinion that a class of the ' improver ' grade—

> " is necessary and should be established. They consider that it cannot be satisfactorily carried out at the technical schools and that the Roorkee College appears to be the only possible place. It is, however, essential for the success of any such class that there should be a continuity of policy for a considerable term of years. "

In order to render such continuity of policy possible, it is in the opinion of the Board of Studies advisable to define the character of the policy somewhat more clearly than has been done in the brief resolution accepted by the Board of Industries and to emphasise certain features which should be regarded as essential in any type of technical work undertaken at Roorkee. The past history and official records of the technical classes at Roorkee render such definition and emphasis by no means difficult.

Since the Naini Tal Conference of 1907, the general tendency of Government policy in relation to technical education, so far as Thomason College is concerned, has been to remove from the college all lower grade work and transfer it to other centres scattered throughout the provinces, *e.g.*, industrial classes in carpentry, wood-carving, fitting, etc., motor driver class, and finally the mechanical apprentice class. It is apparently recognised that the staff and equipment which have been provided at the Thomason College, at no inconsiderable cost, are specially adapted for higher grade technical education and that it is educationally unsound to concentrate both higher and lower grades at the same institution. This view is very fully elaborated in letter No. 601, Industries Department dated 20th March 1909, from which an extract has already been quoted. Under these circumstances it is, in the opinion of the Board of Studies, insufficient to define the character of the new technical class as merely the " improver " grade, and that this is so is shown from the fact that in certain demi-official correspondence Government has already found it necessary to emphasise the fact that there is to be a " distinct cleavage between the new class and the mechanical apprentice class. " Moreover, the need for a fuller definition of the " improver " grade to avoid ambiguity, and to differentiate between this type of education and that provided for the old mechanical apprentice class, is also indicated in Government Resolution No. 1163, paragraph 13, where it is stated that " it is not altogether a complete analogy to treat the ' Improver ' Class as parallel to the Upper Subordinate Grade in the Public Works Department. " From an educational standpoint this at once means that the type of education to be given in the new class is identical with that which the Board of Studies has already twice laid down for the two previous classes which have been abolished, and indicates that such abolition was in itself an unnecessarily drastic step. Continuity of policy can, in the opinion of the Board of Studies, be very easily attained by emphasising the position already clearly stated by Government in letter No. 601, quoted above, and allowing a fair uninterrupted trial of the courses of instruction which the Board of Studies has always considered suitable in this connection. Minor changes, which experience may show to be necessary, can be introduced by alteration of the circular, so far as the constitution of the class is concerned ; and, so far as the courses of instruction are concerned, by any changes approved by the Board of Studies, the body to which such matters were delegated by Government when the original College Council was formed from which the Board of Studies has sprung as a Sub-Committee.

D. O. Ind. Dept., No. 174-C., dated 21st April 1915, a second letter was despatched shortly afterwards.

U. P. Govt. Resolution, Ind. Dept. No. 1163 / XVIII.—415, dated 27th August 1913.

P. P. PHILLIPS,
Secretary.

E. F. TIPPLE,
Offg. Principal, President.

Dated 15th December 1915.

TIPPLE, E. F.—*contd.*

APPENDIX IV-B.

MINUTE ON THOMASON COLLEGE PREPARED BY DR. P. P. PHILLIPS FOR SUBMISSION TO THE PUBLIC WORKS DEPARTMENT RE-ORGANISATION COMMISSION, 1917.

Object of this minute.

The Thomason Civil Engineering College, Roorkee, was started under the ægis of the Public Works Department, and this Department has always exercised a controlling influence on the management of the College affairs. It is the object of this minute to show that this influence has produced a narrowing and restricting effect upon the educational value of the institution, and that, although Government has, on several occasions, initiated attempts to break away from this influence, yet no real measure of success has hitherto attended any of their efforts.

Colvin Committee's proposals for expansion of Thomason College.

From its commencement in 1845, Thomason College was almost exclusively concerned with the immediate needs of the Public Works Department, until the year 1890, when the growing industrial requirements of these provinces caused the Lieutenant-Governor, Sir Auckland Colvin, carefully to review the existing position in a minute, dated September of that year, and to appoint a committee to make recommendations for improving and increasing the facilities for technical education in the North-West Provinces and Oudh. This committee, so far as their proposals affected the Thomason College, advised its transference to the Education Department in order that it might no longer be *isolated* from the general educational system of the provinces; and pointed out that "to assign to it its proper place in the general educational system would not, in their opinion, detract from its departmental efficiency." The full significance of this change was indicated by an assistant principal of the college, who, in a note thereon, wrote—

> "that whereas at the time the college was founded the engineering requirements of these provinces were confined to the needs of the Public Works Department, nowadays, owing to the establishment of factories, mills, etc., there is, or more strictly there is likely to be, a growing demand for men trained not only in what is known as the civil engineering branch of the profession, but in almost all the special lines, which the mechanical branch embraces and that, this being the sole engineering college in the provinces, it is desirable to utilise it for supplying not only such demand as there is, but of encouraging a demand, if possible, where it does not at present exist."

These proposals accepted by the Secretary of State.

As a result of the recommendations of the Colvin Committee, the Secretary of State in despatch No. 63, dated India Office, 21st December 1893, conveyed sanction to a scheme for the re-organisation of the Thomason Civil Engineering College at Roorkee, by transferring the control of the college to the Education Department, affiliating it to the Allahabad University, and placing it under a committee of management, which scheme was stated to be "well calculated to promote the efficiency of general engineering education in India."

Policy of expansion continued under Sir A. McDonnell.

Moreover, Sir Auckland Colvin's successor—Sir Antony McDonnell—definitely stated that it was the object of Government "to develope the college into a technical institute for these provinces which shall control, stimulate, and inspire technical teaching of all kinds." With this object in view two members of the Indian educational service were recruited from Home in 1897, to hold professorships at Thomason College, and it may be noted that both these officers had undergone a course of technical training in England.

Sir J. D. La Touche.

Under Sir James Digges La Touche this policy of expansion was further continued, and in letter No. 266, dated 27th August 1903, the Government of India addressing the Secretary of State said that the Thomason College was "developing into an industrial and technical institute which will control and stimulate teaching of all kinds in the United Provinces." As a result of this a third educational officer was recruited from England for service at Thomason College as professor of applied chemistry. This officer was informed by Sir Charles Lyall, Secretary in the Public Department at the India Office at the time of his appointment, that it was the policy of Government to develope the Roorkee College into a technical institution on the lines of the Colleges of the City and Guilds of London Institute.

TIPPLE, E. F.—*contd.*

Sir J. P. Hewett.

Subsequently in 1910, on the recommendation of Sir John Hewett, a fourth educational officer was appointed by the Secretary of State as professor of mechanical engineering. Sir Herbert Risley, in an interview at the India Office, informed this officer that his services were required for the development at Roorkee of an engineering school on the lines of that of the Manchester University and the Colleges of the City and Guilds of London Institute.

The above facts all indicate that it was intended by Government that the work of the college should not be confined solely to the immediate requirements of the Public Works Department, but that the interests of general engineering education should receive serious attention. With this object in view, not only was the staff, in its higher ranks, greatly strengthened, as indicated above, but also the college buildings and equipment were considerably extended and improved, and extra laboratories, lecture theatres, workshops, and quarters were erected at no inconsiderable expense.

The controlling authority responsible for the direction of the scheme.

For the success of such a scheme of expansion and development, it is of fundamental importance that the controlling and directing authorities should be capable of grasping all the educational complexities involved and of according them sympathetic treatment. The actual controlling authority, however, was the College Committee of Management which has always been presided over by the Chief Engineer to Government, United Provinces, Buildings and Roads, who is also Secretary to Government, Public Works Department. Engineering interests are further represented by two prominent administrative engineering officers of a Government railway. On the other hand, educational interests have been represented solely by the Director of Public Instruction who is not a secretary to Government. The principal of the college, who ordinarily would be a further educational safeguard to ensure the practical soundness of the measures advocated and approved by the committee, has never been able to do this, owing to his being an officer devoid of any educational experience.

Value of the educational results produced.

A very brief examination is all that is necessary to show that the actual value of the educational developments hitherto achieved under the Colvin scheme of expansion, is extremely small, but, at the same time, the investigation will indicate that this has resulted from misdirection due to the inability of the controlling authorities, to appreciate the value of educational experience. The Colvin policy obviously aimed at developing Roorkee on the lines of modern British engineering schools, but the educational organisation necessary for this has never been reproduced at Roorkee.

Under Colonel Clibborn.

Under Colonel Clibborn, the first principal to hold charge of the college under the reorganisation scheme, the only educational developments which occurred at Roorkee were of a definitely low grade type. They consisted of industrial and mechanical apprentice classes, such as would have been admirably suited for the industrial schools which the Colvin scheme contemplated founding at scattered centres throughout the provinces, but which were entirely unsuited for inclusion in the work of an engineering college. Colonel Clibborn's work, in this connection, was definitely discredited by the Government of India in their resolution, dated 14th January 1904, and subsequently the local Government in letter No. 601, dated 20th March 1909, clearly stated that Thomason College should be reserved for higher grade technical work as distinct from the low grade work for which provision was made at the industrial schools. This misdirection of educational effort, for which the controlling authorities at Roorkee were responsible at the very time when the Colvin scheme was being launched, resulted in the loss of more than fifteen valuable years in the development of a sound scheme of technical education in these provinces.

Under Lt-Colonel Atkinson, R.E.

Colonel Atkinson continued the work on the lines of his predecessor, and concentrated on the establishment of an automobile driver class at Roorkee, which, together with the mechanical apprentice classes, started under Colonel Clibborn, has been recently transferred to the Technical School, Lucknow. Colonel Atkinson also established, at Roorkee, classes for training operatives in spinning and weaving, and these classes are now awaiting transfer to Cawnpore as soon as money for this purpose is available.

TIPPLE, E. F.—*contd.*

Entire responsibility for this misdirection does not rest upon the principal alone: it must be equally shared by the College Committee of Management upon which, as already indicated, the influence of the Public Works Department predominates. These results indicate mismanagement and misdirection.

The only actual development, which can in any way be regarded as a legitimate expansion for an engineering college, is that which was instituted by Sir James LaTouche when starting the technical classes at Roorkee in 1906. The full history of these classes has already been submitted among the evidence from other members of the college staff and forms another, and striking, illustration of the lack of educational foresight on the part of the controlling and managing authorities at Roorkee. These authorities, since the inauguration of the Colvin scheme, have been responsible for certain expansions at Roorkee which have now been recognised as educationally unsuited to an engineering college, and which have caused a delay of fifteen years, in the development of the industrial schools, the need for which was first realised by Sir Auckland Colvin from the growing industrial requirements of the provinces so far back as 1890. Moreover, these same authorities, in the case of the technical classes, have mismanaged the only educational development really suited to the status of an engineering college.

It is clearly evident that, under the Colvin scheme, as originally formulated, it was intended to place Roorkee under educational control. The need for such control is obvious from the evidence given above. It is also clearly evident that the recommendations of the Colvin Committee advocated the procedure which has been successfully followed in engineering colleges in the West. Need for educational system of control as formulated by the Colvin Committee.

It may be argued that the educational system of management which has proved itself best suited to conditions prevailing in British engineering schools is not applicable to India, where the institutions in question are controlled by Government, but this position can scarcely be justified, since the Government engineering colleges in Madras and Poona are already placed under the control of the Director of Public Instruction who is the official President of their committees of management. Moreover, it is definitely laid down in these two cases, that all reports and proceedings of the Committee of Management or any recommendations made by the Board of Visitors, must be presented to Government through the Director of Public Instruction. In both these institutions practical engineering interests are amply safeguarded since it is the duty of the engineering members of the Committee of Management or Board of Visitors to visit the college in question, from time to time, and to report to the Director of Public Instruction upon its efficiency. It might also be argued that an engineer president would be better qualified for the discharge of the functions, which in both the above instances have been delegated by Government to the Director of Public Instruction, but one example will perhaps suffice to show this contention to be fallacious. A former engineer president of the Roorkee College Committee of Management visited Roorkee and examined the syllabus, time-tables and courses of instruction. Shortly afterwards orders were issued by the principal for certain modifications of these time-tables, etc., in accordance with the opinions and findings of the president, but practically all the changes then advocated had to be abandoned because they were totally unworkable from the educational standpoint. Moreover, Colonel Atkinson in a letter No. 4556, dated 30th November 1911, upon the subject was constrained to point out that the college course was a *general* course in engineering and was not specifically confined to the special requirements of the Buildings and Roads Branch of the Public Works Department. These facts, therefore, indicate the danger which arises from placing an engineering college under the immediate control of an eminent specialist engineer, who, during the long practice of his profession has completely lost touch with the complex educational questions involved. Such control clearly has a restricting and narrowing effect upon the educational value of the institution. In view of the success which has been achieved under the educational system of management in British engineering schools, and in view of the failure of the public works system of management here discussed, there can obviously be no valid reason for not following more closely the system of control existing in British institutions from which the ranks of imperial service engineers are now recruited. This system, moreover, was recommended for adoption at Roorkee by the Colvin Committee more than twenty-five years ago. Unsuitability of an engineer without educational experience.

TIPPLE, E. F.—*contd.*

Proof of this in the case of the R. I. E. C., Coopers Hill.

Perhaps the most striking example of the failure of public works control and management of an Engineering College is afforded by the case of the Royal Indian Engineering College at Coopers Hill. This College possessed an eminent educational staff and was started in 1871 at a time when there was admittedly no rival institution for the training of engineers in existence in England. The failure of Coopers Hill as an educational institution was particularly noticeable from the year 1883 onwards, when attempts were made to reorganise the college and to broaden its scope, with the object of converting it into a general school of engineering, on the lines of its many competitors, which were then coming into prominence. The published records indicate clearly that the system of management was alone responsible for the failure of this institution, which system stands in striking contrast to that found in modern engineering schools.

The records also show that the President of Coopers Hill was invariably an eminent engineer who received the appointment on his retirement from the Indian Public Works Department. He was devoid of any previous training in educational affairs such as is regarded as indispensable for the discharge of such duties in similar educational institutions. Moreover, the President himself took no part in the teaching work, and further, he possessed wide autocratic powers.

The educational results achieved at Coopers Hill indicate the unsuitability of public works control of an educational institution for the general training of engineers. These results may briefly be summarised as follows:—

> A certain number of eminent engineers were produced despite the system in vogue; the technical examinations laid down were not so stiff as those prescribed at the engineering schools of modern universities; a long tail of distinctly inferior men were passed out; the courses of instruction unduly emphasised subjects of little educational value for engineers, but calculated to fit men for immediate employment in the lower ranks of the profession.

Expert evidence for each of these statements is given in the appendix to this minute. Moreover, these unsatisfactory educational results are directly attributable to the system of control which was productive of violent oscillation in the educational arrangements of the college, and a consequent lack of educational continuity.

The obsolete Coopers Hill system still in force at Roorkee.

This unsatisfactory state of affairs is paralleled at Roorkee as can be seen from unnecessary alterations in the time-tables and syllabuses; in the establishment, abolition, or subsequent transfer of classes; and in the erection and modification of buildings. As already indicated, all these points are evidenced in the past history of the industrial draftsmen and computer, mechanical apprentice, automobile driver, textile, and various technical classes, with which Thomason College has been concerned during the past twenty years.

Up to the present time at Roorkee, as was formerly the case at Coopers Hill, the head of the institution has always been a military officer, and recently a retired public works official of high rank, who in no case has taken an active part in the teaching work of the institution. This is an anomaly for which no justification can be found. Under the system prevailing, administrative duties, instead of forming a mere adjunct of the educational work, are separated from it and become unduly elaborated. They are raised to a plane altogether out of keeping with an educational institution, supposed to be of university rank.

Moreover, under this system, any expression of criticism from a member of the educational staff, however mildly tendered, is apt to be regarded as an act contravening established authority; and the atmosphere pervading the institution, instead of being of an academic character as is the case at university engineering colleges in England, more closely resembles that of an orderly room.

Need for an authoritatively constituted Board of Studies.

The close analogy which exists between Coopers Hill and Roorkee is also exemplified in the matter of a board of studies. This indispensable item in the organisation of an engineering college was lacking at Coopers Hill until it was called into existence by an order of the Secretary of State a few months before the abolition of the institution, and only then as the result of powerful external educational criticism. An unofficial board of studies came into existence at Roorkee when the principal, after the first technical class fiasco, began to realise the educational difficulties attendant upon this important extension of the college work. This Board possesses no authoritative con-

TIPPLE, E. F.—*contd.*

stitution, and there is no obligation on the part of the controlling authorities ever to consult it. The only conclusion to be drawn from this state of affairs is that the experience of educational officers is deemed to be without value in matters which vitally concern the progress of the college to which they have been appointed, and even in connection with the work for which they have been specially recruited by the Secretary of State. Restricting effect of existing system emphasised.

The restricting and narrowing influence of public works control at Thomason College can further be noticed from the following extract from a speech delivered at Roorkee in July last on the occasion of the annual distribution of prizes, when the Hon'ble Mr. W. G. Wood, C.S.I., Chief Engineer and Secretary to Government in the Buildings and Roads Branch of the Public Works Department, and President of the College Committee of Management remarked :—

> "I have always looked upon Roorkee as the Indian equivalent of Coopers Hill and, as time goes on, I trust that Roorkee will become more and more so.... Further, in *limiting* the ambition and scope of the college, and *reverting*, to some extent, to the main purpose for which the college was originally founded, I find myself only able to congratulate you."

The limiting of the scope of the educational work of the college to the training of civil engineers, alone, is entirely contrary to the procedure adopted at engineering schools in England. These latter are founded upon as broad a basis as possible. Thus it is that departments of civil, mechanical, electrical engineering and applied chemistry co-exist side by side, and the thorough co-ordination of the work in these engineering schools makes both for efficiency and economy. The success of these institutions is undoubted, and this alone seems to constitute a cogent reason for developing the Roorkee College along the lines adopted at these more modern engineering schools rather than along the lines of an institution which had to be abolished because it was unable to compete with its more successful rivals. It was development along the lines of such modern British engineering schools that was undoubtedly recommended by the Colvin Committee in 1891.

Concerning the important question of apprenticeship, it is admitted that an educational institution, however efficient, cannot turn out finished engineers. A period of apprenticeship is necessary in order that these apprentice engineers may learn to apply the knowledge gained at college to the solution of practical engineering problems. Engineers who join the ranks of the Imperial service have all previously had this experience. It is in regard to this question of apprenticeship that the Roorkee engineers suffer when compared with Imperial engineers on their first joining the service. Although the first year's service of the Roorkee engineers on entering the Public Works Department is supposed to be a year of apprenticeship, in actual reality this is seldom the case. The following extract from a note written by a recent chief engineer may be quoted in support of this statement :— Apprenticeships.

> "An apprentice engineer is at present made too much use of to the detriment of his instruction. I always tried to give the men appointed to me full experience on some large work. But the executive and assistant engineers, under whom they were placed, did not always devote as much time to their instruction as was desirable, generally because an executive or assistant of the present time has so much work on his hands that he finds it difficult to find time to give much attention to young apprentices." Arrangements for these at present unsatisfactory in the Public Works Department.

The fact that Roorkee apprentice engineers have to be equipped for immediate useful employment at entry to the Public Works Department has been one of the chief reasons put forward in the past for concentrating attention during the college course at Roorkee on subjects such as accounts, estimating, drawing, and surveying. This portion of their training is at once utilised on entry to the Public Works Department, but its educational value is extremely small.* Instruction in engineering design, which would enable such men later in their careers to rise to positions in the higher ranks of the service, is correspondingly curtailed. Professor Unwin, speaking in June 1911 at a conference of

Vide Sir Alexander Rendel's remarks in Coopers Hill papers, 1904.

TIPPLE, E. F.—*contd.*

the London Institute of Civil Engineers, convened for the purpose of discussing the training necessary for men who are desirous of entering the engineering profession, stated :—

> "An employer who takes into his works college students is, I think, often disposed to expect from them an immediate availability which is unreasonable..... It is not the main object of a college course to fit students specially for such work as will fall to them while in the lowest rank of their profession. The college course must contemplate fitting the student for his whole career and provide him with an intellectual equipment which will only gradually become useful as he rises to higher rank in his profession."

These remarks seem to apply with considerable force to the conditions prevailing in India, where the scope for employment of apprentice engineers is mainly limited to the openings afforded in the Public Works Department.

Bearing on this question, it may be noted that one of the chief fields for the training of apprentice engineers in England is to be found in the technical offices of large engineering firms where a considerable staff of experts is employed in connection with the preparation of projects, plans and estimates for new work. These technical offices afford valuable opportunities for the training of apprentice engineers and openings therein are much sought after. In the Public Works Department there appears to be no corresponding central technical office; plans for new work being drawn up in the scattered offices of executive and superintending engineers. In the drafting out of apprentice engineers to the Department attention seems to be concentrated on those places where actual construction is in progress, and thus the valuable training possible in the designer's office appears to be lost sight of.

A further point to notice is that the introduction of the Provincial service reacted detrimentally upon the status of the Roorkee engineer and consequently, upon the college itself. No matter how efficient the Roorkee engineer may be, his prospects in the Department are much inferior to those of the men who passed out of Roorkee previously to 1895. This being so, the college cannot be expected to attract the same type of student as it did in former years.

Conclusion. In the foregoing paragraphs an attempt has been made to indicate, as briefly as possible, the narrowing and restricting influence resulting directly from the public works system of control of an educational institution, which, in this instance, is looked upon as the model engineering college of the country. Although an attempt was definitely made to break away from this restricting influence in 1893, yet, it still predominates in the management of the Thomason College. During the past twenty-five years, it has hampered and stultified all attempts to broaden the basis of the educational work undertaken, and thereby has hitherto prevented Roorkee from developing along the lines which have proved so successful in all western engineering schools.

ANNEXURE.

Extract from the leading article entitled "The Lesson of Coopers Hill" which appeared in the "Indian Daily Telegraph," dated February the 1st, 1905.

* * * * * * * *

At its foundation, Coopers Hill had practically a clear field for the education of engineers, since it is admitted that no rival school was then in existence. Its teaching staff contained men who have made reputations as experts in the education of engineers, to prove which it is only necessary to call to mind the names of Professors Unwin, Minchin and Hearson. The great need for engineering schools in England at that time has been amply shown by the success of the later schools founded by the City and Guilds of London, the universities of Cambridge and Victoria, and many other educational bodies at Home. Yet despite these initial advantages Coopers Hill failed to establish itself on a sound basis, and has been completely outstripped in the professional race by these other institutions which came into existence at later dates. Every allowance may be made for such success as did attend the efforts at Coopers Hill; some sixteen hundred students passed through the college, and it is only natural that many of these have since become

TIPPLE, E. F.—*contd.*

well-known and eminent engineers. The true measure of its educational efficiency, however, can only be determined by comparison with rival institutions, and from the evidence given at the last Commission it cannot be doubted that the market value of the Coopers Hill diploma was much below that existing in the cases of other Engineering Schools. Thus Professor Hudson Beare stated that the technical examinations at Coopers Hill were not so stiff as those at Edinburgh University, and that although the men at the top of the Coopers Hill lists were as good as the top men at other institutions, yet there was a considerably longer tail of inferior men * distinctly below the average. Consequently it must be admitted that Professor Minchin asserted with some truth that "the success of the college in sending a number of good men to India was rather in spite of the system than anything else." Under such circumstances the college as an educational institution must be regarded as a failure, and although it turned out a few good men every year for the guaranteed appointments, its educational efficiency has been extremely small.

In endeavouring to discover the cause of the disaster the capabilities of the teaching staff is naturally the first point to be regarded. Here we meet at once with the names of men well-known in the educational world at Home, and whose abilities are held in high esteem by many recognised experts, as was very clearly shown at the time of the compulsory retirement of several members of the staff shortly after Colonel Ottley's appointment as president. Furthermore Professor Unwin, who was on the staff for thirteen years, has been very largely responsible for the success of the Technical College of the City and Guilds of London which he joined on leaving Coopers Hill, and it is consequently impossible to blame the teaching staff for the failure of the college to hold its own. It is when we examine the system of management that we discover the most startling diversity between the methods at Coopers Hill and that adopted at the colleges of universities and other educational bodies. At Coopers Hill the president has always been an officer devoid of any previous training or experience in educational matters such as would be regarded as quite indispensable for the proper discharge of his duties at any other educational institution. Frequently he has been an officer who has taken no actual part in the teaching work of the college, and concerning this system it was stated before the Commission that "until eighteen months ago.....the absolute control of everything—even of the educational system of the college was in the hands of the president and the presidents were men who had had no experience of educational matters. The result was that the college oscillated somewhat violently from one *régime* to another—one president thought one thing important, and another thought a very different thing was important and so on." Under such circumstances it is not surprising that the college course lacked that thorough co-ordination between its different branches which is so essential a factor for success in any educational scheme. Ill-matured plans for changes and extensions could be forwarded to the Secretary of State for sanction without being subjected to careful scrutiny by experts capable of judging each separate item in its proper relation to the whole. The waste of time, energy and money produced by such conditions, it is impossible to estimate and failure of the college to maintain its position was a natural result.

If this system of management be compared with that adopted at the City and Guilds Technical Colleges, its deficiencies become still more strikingly evident. The system in vogue at these colleges has been evolved by Sir Philip Magnus, Professors Unwin, Perry, Armstrong, Ayrton and others, being an adaptation of the methods followed in the great German polytechnics which have done so much for the technical education of that country. Under this system the principal or president is a senior member of the teaching staff in charge of one of the three or four branches under which the college course is grouped, one professor with assistants being responsible for each branch. The professors form the

*The presence of this tail of inferior men is also indicated in the Commission's Report (1904) wherein it is recorded—

"We think, moreover, that inasmuch as *some* of the students may find difficulty in obtaining admission to the University or institution which they would prefer, owing to the fact that their instruction having been conducted on lines which would render it difficult for them to pass an *entrance* examination in the prescribed subjects, the Secretary of State should use his good offices on their behalf by representing to the University or institution the circumstances in which their education was interrupted by the closing of the R. I. E. C."

It is obvious from this that some of the students admitted to Coopers Hill could not be expected to pass the ordinary entrance examination of other engineering institutions.

TIPPLE, E. F.—*contd.*

College Board or Senate of which the principal is president, and this board is responsible for the educational system as a whole. All schemes for extensions or alterations must be passed by the Board before they can be carried into effect. Such schemes, if passed, are then laid before the Committee of Management by the principal as the representative of the educational staff, and the Committee, if the funds are available, sanction the expenditure. This Committee of Management is composed of the Trustees and business men in charge of the college finances, and is represented in the case of Coopers Hill by the Secretary of State. Under this system it is essential that the principal should be an educationalist, and that sanction should not be given to any expenditure for extensions or alterations until the plans for these have been duly passed by the Educational Board, by which means alone their educational efficiency can be guaranteed. In the case of Coopers Hill it is evident that each president has been in reality little more than a superintendent of office work or registrar posing as an educational expert and that in relation to the members of the teaching staff he has not been *primus inter pares* as would be the case at other educational institutions, but he alone has been held responsible for the whole of the college educational work. Consequently each successive president introduced just such changes and advocated just such developments as seemed desirable in his own private opinion, this being made clear in the evidence before the final Commission. * * * *

APPENDIX IV-C.

A NOTE ON THE ENGINEERING COURSES AT THE THOMASON COLLEGE, ROORKEE, BY MR. H. P. JORDAN, PROFESSOR OF MECHANICAL ENGINEERING, THOMASON COLLEGE.

Of the courses of instruction at the Thomason College two only can be regarded as providing an engineering training in the sense in which that term is generally understood. These are the courses in civil engineering and in mechanical and electrical engineering.

Entrance examination to civil engineer class.

Civil engineering, entrance test.—The class in civil engineering recruits mainly for the Public Works Department and the course is mapped out to meet the supposed requirements of that Department.

Admission to the class is by competitive examination, the number of candidates being always in excess of the number of vacancies.

Certain qualifying educational standards are insisted on before admission to the entrance examination; the object of these being to secure that candidates have previously received a sound general education.

The aim of the entrance examination should be to select from the list of applicants those best fitted to profit by an engineering training. This object, however, is not secured by the present examinations for the following reasons:—

Mechanics, physics and chemistry, subjects of vital importance in a study of engineering, rank only equal in importance with French, Latin, Sanskrit, Arabic and Persian.

Students selected by such a test are necessarily of very unequal quality. Some have a very fair knowledge of elementary science, others enter the college without the most elementary grounding in the rudiments of mechanics and chemistry. Proposal for a reform of the entrance examination, by the elimination of the languages and the substitution of compulsory mechanics, physics and chemistry, were submitted to Government some years ago but appear to have been shelved.

Course in civil engineering.

Course in civil engineering.—The course in civil engineering extends over three college sessions. It provides a fair training in civil engineering though certainly inferior, for reasons discussed below, to the training given at engineering colleges in Britain.

The main defect in the present course arises from the inability to grasp the fundamental fact that a college, no matter how well-equipped or how able its staff, cannot turn out finished engineers. A college cannot do more than provide a tuition in the principles of engineering which a student must learn to apply during an apprenticeship or pupilage on works.

TIPPLE, E. F.—*contd.*

To concentrate, in a college, on instruction in a mass of professional detail is to detract largely from the value of a collegiate course of training. Details of actual construction can only be learned, in a satisfactory manner, on works and any attempt to substitute, in a college course, instruction in matters of professional routine for tuition in general scientific principles underlying engineering practice, must produce unsatisfactory results.

This defect is very conspicuous in the civil engineering course at the Thomason College. An attempt is made to train students who, on leaving college, are familiar with the daily duties of an assistant engineer whether in the Buildings and Roads Branch or on canals or railways; and who are capable, moreover, of planning and executing an electric lighting scheme for a town.

The result is to provide the Public Works Department with recruits probably of immediate value in the Department but who, owing to the defects of their college training, are inferior in mental equipment to the product of any leading engineering college in Britain and are less likely to rise to the higher ranks of the profession.

Concerning this important matter, the opinion of Dr. W. C. Unwin, speaking * as chairman of a conference convened by the Institution of Civil Engineers to consider the education and training of engineers, may be quoted:—

> "An employer who takes into his works college students is, I think, often disposed to expect from them an immediate availability which is unreasonable. It is not the main object of a college course to make a student acquainted with the details of any particular business; that is the proper object of the first year or two of practical work. It is not the main object of a college course to fit students specially for such work as will fall to them while in the lowest rank of the profession.
>
> The college course must contemplate the fitting of a student for his whole career and provide him with an intellectual equipment which will only gradually become useful as he rises to higher rank in his profession. The view of the employer, who looks only to the immediate usefulness of the student, is a short-sighted one."

Mechanical and electrical engineering class.

† 1906-1908—Technical class.
1910-1914—Higher division of the Department of Technology.
1915—Mechanical and electrical engineering class.

Mechanical and electrical engineering class.—This class has under different names,† and with occasional breaks, been conducted by the college since 1906.

Recruitment has been gravely prejudiced by the lack of any continuity of policy in regard either to the methods of recruitment or to the standard required at entry.‡ A few students of good quality have, in spite of these drawbacks, passed through the class and are doing well. Had an effort been made to attract annually a few students fitted by their previous education to profit by the course of study laid down, it is highly probable that the class would now have been firmly established on a satisfactory basis.

The present position appears to be that students from the United Provinces and the Punjab prefer to attend the Victoria Jubilee Technical Institute at Bombay. This cannot occasion surprise to anyone familiar with the development of the class at Roorkee and the absence of encouragement or support from the authorities responsible for the launching of the scheme. The class under the name of the Higher Division of the Department of Technology was dubbed a failure by Government [Resolution 72-XV-308 of 1914, dated 12th January 1915], abolished and restarted under the name "Mechanical and Electrical Engineering Class" before a single student of the so-called Higher Division had completed the course. Between the abolition of the one and the restarting of the other class there was a break of one year.

Such action has not tended to restore the confidence shaken by the very unfortunate circumstances under which the class was first started in 1906. As a result, students are not forthcoming in satisfactory numbers and the majority of those entering the class at present are of a type not likely to profit by the training offered.

* June 29th, 1911.

‡ A statement of the history of the development of this class was drawn up by the Board of Studies in November 1915, and forwarded to the College Committee of Management.

TIPPLE, E. F.—*contd.*

The course of study.—The college course now laid down extends over a period of three years. The confusion between college training and practical training on works, so apparent in the case of the civil engineer class, has been avoided in drawing up the course of study for this class since students after satisfactorily completing three years in the college are required to serve a period of two years' approved apprenticeship on works. The satisfactory completion of this apprenticeship is one of the conditions for the award of the certificate. In practice the college arranges these apprenticeships though it gives no guarantee to do so. Moreover, students are encouraged to spend their long vacation on works and the college has usually been able to secure for all such students an opportunity of doing useful and interesting work.

Committee of Management and staff.

College control.—Many of the defects noted above may be directly attributed to the college system of management. The principal is the only member of the college staff on the Committee of Management, so that, when educational questions come up for consideration, that body has no means of learning the views of the staff directly concerned.

Had the opinions of the teaching staff been placed before the Committee of Management and Government before orders were issued in 1906 for the formation of classes in mechanical and electrical engineering, it is highly probable that many difficulties would have been avoided. It is, for instance, difficult to think that Government would have ordered the recruitment of these classes had they been informed that no preparations had been made to receive them and that the staff, the equipment and the necessary college accommodation were inadequate.

Principal and Board of Studies.

The principal has usually been an officer of no previous educational experience. He is assisted by a board of studies consisting of the heads of departments but this body has no official recognition and there is no obligation resting on the principal to consult it.

The principal has full power to alter any course of study against the advice of the professor responsible. This is open to grave objection and recently * actually led to alterations being made in the course of study of the mechanical and electrical engineer class, against the advice of the staff directly concerned, by the elimination of two-thirds of the course in mathematics while leaving untouched courses in mechanics and science; and to the drawing up of a scheme of examinations by which students were examined in subjects which formed no part of the course of study. The altered course naturally proved quite unworkable and was cancelled within a few weeks of its coming into force.

The foregoing facts clearly indicate the necessity for the adoption of the system already in existence at western institutions by insisting that all questions affecting courses of study and college discipline be under the control of a recognised board of studies sitting with the principal as president. The Board should also have an opportunity, if they so desire, of placing their considered opinion upon any question affecting the educational work of the college before the Committee of Management and Government. In other words the Board should be recognised as the responsible body to deal with the internal affairs of the college in the same way as the boards of study at colleges in Europe are so recognised and not as a body which may be consulted or ignored at the caprice of the principal.

APPENDIX IV-D.

NOTE ON THE COURSE IN CIVIL ENGINEERING AT THE THOMASON CIVIL ENGINEERING COLLEGE, ROORKEE, BY MR. G. LACEY, OFFG. PROFESSOR OF CIVIL ENGINEERING, THOMASON COLLEGE.

Introduction.

The following note is devoted mainly to a discussion of the existing course in the Department of Civil Engineering at the Thomason College, the extent to which it meets Indian requirements, and the modifications that are considered necessary in order that such requirements should be met more fully. It will be understood, however, that proposals of this kind radically affect the other departments with which the teaching in civil engineering is co-ordinated. The passed students of the college stand or fall largely by their civil engineering training, and it is inevitable that, in an investigation of the system of education given at the college, the Department responsible for the teaching of civil engineering should receive particular attention.

* June 1915.

TIPPLE, E. F.—*contd.*

2. The standing of engineering colleges in India, relative to those at Home, has been much discussed, and it has frequently been stated that the Indian engineering colleges, of which the Thomason College is admittedly the first, provide a training in every way equal to the best engineering colleges at Home. Such opinions have been put forward mainly by those whose personal acquaintance with engineering institutions as students was made many years ago, when the present standard of instruction had not been attained. Standard of instruction.

3. The writer, in common with many assistant engineers now in this country, made his acquaintance with an engineering course at the Central Technical College, London, ten years ago, and has gauged the utility of this engineering training when subsequently employed on works in India. During his tenure of the post of professor of civil engineering at the Thomason College * he has been afforded an ample opportunity of judging the value of the course of instruction given, and is emphatically of the opinion that whatever may be said of the merits of the college, it is not at present the equal of engineering colleges in the front rank at Home. Such a statement is in no case a reflection on the very useful training that is given at the Thomason College. It must be borne in mind that the standard, set in British colleges, is a high one, and that, if we are to assert at the outset that Indian colleges are their equal, further enquiries of the Committee into the facilities for engineering education in this country would be rendered somewhat unnecessary.

4. The difference of a student of the Thomason College from a graduate of an engineering college at Home is not so much a matter of the knowledge that he takes away with him as of mental equipment. Much that is learnt by the student is necessarily forgotten, but the trained mind that he brings to bear on every engineering problem, with which he is subsequently confronted, is a permanent asset, and the development of this should be the main object of his course of study. In the opinion of the writer it is in this respect that the Thomason College falls short of similar institutions at Home. Mental equipment.

5. The doctrine, that the real and permanent asset of a student is not his acquired knowledge but his mental equipment and outlook, is by no means a new one. It has been stated in almost the same terms by a number of prominent engineers in both England and America. The writer may be permitted to quote Professor Whipple of Harvard University on this subject since his remarks have reference both to over-specialisation and mental training.

> "Generally speaking experience has shown that specialisation in our [American] technical schools has been carried somewhat too far. In the writer's opinion it ought only to be carried far enough to incite the permanent interest of the student and enable him on graduation to take up some particular line of work intelligently, and with such a degree of skill that he can earn a reasonable income during the early years in which he is getting his real experience in his chosen profession. In later years it is the effect of his general studies that makes for his success. In other words it is mental culture after all that counts."†

6. The college in the past has been primarily concerned in the production of recruits who will be immediately useful to the Indian State railways and the Irrigation and Buildings and Roads Branches of the Public Works Department. Over-specialisation.

In order that the student may be fitted for a post in any one of them, an attempt is made to give him a specialised training in all three. His time is largely occupied in acquiring knowledge, one half of which will ultimately be of no use to him. Finally, during practically the whole of his last term at college, the unfledged student is employed on a project which would in practice be entrusted to an engineer of some years' service, and, to complete his discomfiture, he is prohibited from asking the assistance of his professor since the project is also an examination. In other words the student in the second half of his third year, when he is most likely to profit by instruction, is left entirely to his own resources, and is deprived of professional guidance at a time when he is most in need of it.

7. It will be seen that a course of study, devised to include a full project, is badly handicapped for time when compared with a three years' course at Home. The project and its effect on the college course.

* Appointed 12th November 1915.
† Engineering News, October 31st, 1912.

Two reasons are urged for the project. Firstly, that it gives the students practical work to do, secondly that the man of originality asserts himself, improves his position on the examination list, and thereby his chance of an appointment.

The objection to the first statement is that it should be the business of the Public Works Department to provide the student with work of this kind in his apprentice year; to the second that it is primarily the duty of the college to train engineers, and that their selection (after a trial on works) is properly the function of their employers.

Students, it should be noted, are appointed entirely on their position in the final list. It is not surprising, therefore, that they should devote themselves to the acquirement of a transitory knowledge that will last them through their examinations. The student at the head of the list may possibly be the best in his year. He would be a still better man if he were trained differently.

Minor aspects of over-specialisation.

8. The foregoing remarks are sufficient to show that there is a case against the over-specialisation of the present college course, and the misplaced effort to produce engineers of immediate utility. Mention has still to be made of the excessive time spent in estimating, and the detailed lectures which the students receive in Public Works Department accounts.

Estimating should undoubtedly occupy a more subordinate position than it does at present in the college course. As to Public Works Department accounts the writer made himself familiar with them in his first month of sub-divisional charge, and considers that this is much the best method of acquiring such knowledge.

Department of Survey and Drawing.

9. The course in surveying is an excellent one and calculated to turn out a first class surveyor. The sole objection to it is that too much time is spent on it at the expense of training in engineering design. The course might well be curtailed without detracting from its efficiency, and by curtailment is understood the omission of the engineering project of which so large a part is devoted to surveying.

10. Drawing, as taught in the Survey Department, is divorced from engineering design instead of wedded to it. Here again the object of the present course is to turn out a first class draughtsman rather than a designer.

This state of affairs can only be remedied by transferring drawing to one of the engineering departments and recognising that it is merely a preliminary to engineering design.

Re-organisation of the college course.

11. The aim of this note has been to show that sufficient attention has not been paid to the broad engineering principles in which every student should be grounded. If, however, by "broad basis" is understood a great variety of subjects the Thomason College syllabus should satisfy the most critical. The Civil Engineering Department alone is responsible for the courses in railways, irrigation, buildings and roads, bridges, reinforced concrete, water-supply and architecture. The writer considers that any increase in breadth of this kind would be accompanied by a lamentable thinness in parts of the instruction, and that the aim of any scheme of re-organisation of the college course should be concentration on the broad principles of engineering inherent in the course as it now exists, and the elimination of those parts of it as are at present over-specialised.

Function of the Board of Studies.

12. If, as the writer is convinced, the existing course of study requires re-organisation, the task may possibly devolve on the Board of Studies, who, from their personal knowledge of the situation, are most adequately fitted to deal with it.

The Board of Studies has at present no official status, and until such time as it is recognised and accorded a position equivalent to that of similar bodies at engineering institutions at Home the direction of the college will become increasingly difficult.

Oral evidence.

GUPTA, B. C.

18th February 1918.

The witness was in agreement in most matters with the memorandum submitted by the Civil Engineering College, Sibpur.

2. *Connection with the University.*—There are at Sibpur two grades of teaching, one for the foreman and the other for the manager class, the latter slightly higher than the

GUPTA, B. C.—*contd.*

foreman class. At present there is no graduate course in mechanical and electrical engineering, but the witness felt that a strong effort should be made to attract Indians and Anglo-Indians to this work. The witness was not in favour of separating the higher ranges of study from the University. There should be a faculty of engineering composed of practical engineers and the professors in engineering. Indians appreciate the university connection. The degree popularises the profession.

3. *Preliminary training.*—There should be an entrance examination to Sibpur conducted by the college. This year 160 students applied for admission to the mechanical and electrical courses, but there were only 70 vacancies. Selection at present is mainly by the results of university examinations. The students, however, are not usually well-equipped for the course. The witness thought that the standard of the intermediate in science would be about correct for the admission test. A good knowledge of English is essential, but the study of English literature should not be laid too much stress on. The school training for an engineering course should be more practical than at present. Practical chemistry, physics, and elements of electricity and magnetism should be included in the school course—also knowledge of mathematics up to trigonometry, algebra and mensuration before application for admission into the Engineering College. Manual training would be helpful.

4 *Practical training.*—The witness then discussed whether a student having passed through some such reformed intermediate course should undertake a year's practical training or not. He saw benefits in the proposal and specially the opportunity of testing the boy's aptitude for engineering in general and for practical work in particular. On the other hand, he thought that the rigid imposition of such training would deter some students from taking the course. The only disadvantage is that this one year's break in the general education may have quite a detrimental effect on a young man's career in case he discovers that he is not fit for engineering as a profession. This one year's break may partly disqualify him for other professions, such as medicine, law, etc., where the age question is of considerable importance. Arrangements can be made for giving the practical training at the college. Messrs. Tata Sons & Co. and other firms would, he thought, assist in giving this practical training.

5. *Distinction between the upper and lower grades.*—The teaching of the upper and lower grades in mechanical and electrical engineering can be conducted together so that the first three years of the two courses may be common. An *extra* year's course, perhaps *two* years, with a modified syllabus in the first three years in mathematics and science, than is the case at present can then be given for the upper-grade course. The witness admitted that there were some advantages in separating the upper from the lower work, but deprecated any drastic changes. This was a goal to aim at, when engineering becomes far more popular than at present, and when there are many more engineering colleges than at present, but to think of two separate colleges at present is out of the question.

6. *Offers of appointment.*—Certain offers of appointment, nine in all, had been made by the Tata Brothers, Sakchi, Bombay Hydro-electric scheme and the Cape Copper Co., but the witness could not supply the men from Sibpur. The posts were of the foreman type. So far, all the electrically and mechanically trained engineers from Sibpur college, have found very remunerative employment or have successfully set up in business, and even failed students, without exception, have found excellent billets: the demand at present is far in excess of the out-turn.

7. *Musalmans.*—There are about 5 Musalmans in the witness' department. The number of Musalmans is increasing.

N.B.—In electrical and mechanical engineering, a three years' diploma course, as at present, with a diploma given by the college, and not by the Joint Technical Examination Board, should soon come into existence.

The three years' course should be supplemented by a one, or even two years' degree course, conducted by the University, but controlled by a faculty of engineering consisting of the engineering staff of the college and two or three qualified professional engineers of standing. This faculty should have powers to alter the syllabus from time to time once a year if necessary

The absurd title of "apprentice" or "overseer" course should be dropped as soon as possible, and the word "*diploma*" substituted. The course, as at present conducted at Sibpur college, is far higher than what the word "overseer," implies, though nothing quite as much as what a "*degree*" course would imply.

TIPPLE, E. F.

18th February 1918.

Neglect of educational experience.—The witness stated that his personal experience had been entirely confined to Roorkee, and that his reasons for considering educational experience gained in India to be largely a wasted asset so far as Government was concerned, were detailed in the minutes submitted with his written evidence. He stated that an informal board of studies existed at Roorkee and was composed of the professorial staff. The Board received no official recognition and, in matters of educational importance affecting Roorkee, its opinion might or might not be asked.

2. *Admission to Roorkee.*—The witness held that the intermediate work was only of a school nature. The usual qualifications for admission to the entrance examination to the civil engineering class at Roorkee are the passing of the school leaving certificate examination, with certain specified optionals, the B.A. or the B.Sc. The intermediate examination is not recognised. There is a competitive entrance examination for admission to this class conducted by the college. The yearly average is about 60 candidates for 20 vacancies. Candidates who have merely attained the school leaving certificate standard, therefore, have little chance of success. Certain special State students are also admitted to the class, averaging 2 or 3 yearly. In practice, the real standard of admission is the intermediate. There is a maximum age limit of twenty-one. There are between 60 and 70 students in the Civil engineering classes, 80 in the upper subordinate classes and 80 lower subordinates. The witness could not give definite figures for the mechanical engineering class, for which the conditions of entry and arrangement of courses had been frequently varied since it originated in 1906. Details of these changes are given in several of the minutes submitted by the witness, to one of which is appended a report on these classes prepared by the Thomason College Board of Studies. The witness considered that the students entering this class at the present time are not quite of the same educational attainments at entrance as those of the civil engineering class. It is necessary to remember, in this connection, the guaranteed Government appointments reserved for the civil engineering class.

3. *Relation to the University.*—Courses in engineering, as distinct from courses in the routine practice of a trade, should be connected with university work provided that a faculty of engineering on which the teachers are largely represented, be empowered to determine courses and curricula. The presence of practising engineers on this body would be useful but the number of such engineers should not be sufficient to swamp the teachers. Engineering professors should have opportunities of keeping in touch with the latest practice of the profession. This would be ensured if consulting work were allowed.

4. *Position of an engineering college.*—It is an advantage for an engineering college to be intimately associated with a university. Close proximity to other schools of study is useful. Other things being equal, the witness would prefer Allahabad to Roorkee as the location of the engineering college in the United Provinces, but he could not contemplate the possibility of transfer. Proximity to a big industrial centre, however, which is essential for an industrial school, is of much less importance in the case of a technical college of university rank. The witness had not considered seriously the proposal to constitute one college for all India to conduct the higher teaching in engineering and did not consider himself in a position to put forward definite evidence regarding the advisability of adopting such a proposal. The matter had been discussed by two commissions, and the witness had expressed an opinion in his written statement; but it appeared necessary to decide the question in the light of the existing demand for engineering education in India. Upon the actual magnitude of this demand the witness was unable to make any definite statement.

TIPPLE, E. F.—*contd.*

5. *Separation of higher from lower grade educational work.*—The witness was opposed to an institution in which the higher and lower grades were taught. The teaching in the lower grade should be kept apart from the University and be placed under the control of some organisation which was in close touch with the engineering and industrial world. A neglect of the distinction between the two grades, technical education and industrial training, leads to confusion. The attempt of the English polytechnics to undertake the higher as well as the lower work tends to make the training in the lower grade too highly theoretical and to divorce it from important details of technical routine. Training in workshop practice is of fundamental importance at an industrial school; engineering laboratory work is of primary importance at a technical college. The witness quoted a letter from Sir Clement Simpson of Messrs. Binny & Co., Ltd., Madras, in support of his contention. An industrial school does not require so expensively equipped a laboratory, nor so highly trained a staff as is necessary at a technical college. The demand for the product of the school, however, will be much greater than that existing in the case of the college; more schools will be required than colleges. The presence of the higher and lower grades at one institution prevents any homogeneity in the academical life of the institution.

In short, the witness held that the higher grade teaching should be conducted in one or more colleges; that, in each case, such colleges should be connected with a university; and that the college teaching should be entirely separated from the lower grade teaching.

6. *Organisation of the lower grade teaching.*—In the lower grade the opinions of commercial employers of labour are of considerable importance for the proper determination of the type of teaching required and for the successful organisation of the industrial schools at which it is to be provided.

7. *Recruitment of the staff.*—The witness approved generally the idea of appointments under the University for short periods of time after a period of probation and with possibilities of private practice, and a gratuity at the end of service; but felt that a man might lose touch with the work in England and that, with such reorganisation, service conditions might prove embarrassing. He had not considered such a proposal before and therefore felt some difficulty in expressing an opinion. He admitted that it might be beneficial to a professor to have the opportunity of breaking free from the service system and seeking other employment.

He desires, now, to point out that if higher education be organised under these altered conditions, there will be danger of the opinions of such short service educationists being largely discounted on the ground that they are imperfectly acquainted with "conditions in India." In this way the direction of educational policy will remain, as in the past, almost entirely in the hands of an administration animated by a "spirit, which so long as it prevails in official quarters, will effectually bar the way against any real educational reform." (*Cf.* Sir Henry Craik on Indian education, *vide* pages 10, 15—18, Minute on Indian Education submitted by the witness with his written evidence.)*

8. *Employment of Indian engineers.*—The chief object of the engineering colleges hitherto has been to train recruits for the Public Works Department. If the training of engineers rather than recruitment to the Public Works Department became the chief objective, then the preparatory training as well as the organisation of the colleges may need alteration. In regard to the preparatory training, the witness approved the proposal that boys might, up to the present intermediate stage, be given a sound secondary scientific education including a knowledge of colloquial English rather than English literature, such training being given in institutions distinct from the engineering colleges and preferably in secondary schools. After such a preparatory training and before entering an engineering college, it might be an advantage if facilities could be afforded for a short preliminary practical training in shops. There should, however be a good deal of elasticity in the system. It would also be necessary to arrange at the industrial schools classes whereby exceptional students at these schools could carry their general education approximately up to the present intermediate stage, and thence proceed to an engineering college. A boy who has shown great intellectual promise at an industrial school, together with considerable technical ability, should not be debarred from going to the University to continue his engineering education.

* Pages 72-73.

IV. EUROPEANS AND ANGLO-INDIANS, UNIVERSITY EDUCATION OF.

General Memoranda.

WOOD, The Hon'ble MR. W. H. H. ARDEN.

The number of European and Anglo-Indian boys who proceed to a university education from secondary European schools in India is not large; it is not so large as it is desirable that it should be.

Europeans that are only temporarily resident in India, usually send their children to England at an early age; some few may send their children to local schools in India for a few years.

Of late years there has been a steady increase in the number of Europeans coming out to India to occupy comparatively subordinate positions in trade and commerce and in industries. Europeans of this class tend to become domiciled, and in most cases are compelled by circumstances to educate their children in India.

On the other hand, a small proportion of the more well-to-do domiciled Europeans and Anglo-Indians send their children at a comparatively early age to England for education, and a larger proportion send their children to England at an age, say, from fourteen years onwards, to complete their school education, and to receive technical, or professional, or university education.

Since the war began many children who would ordinarily have gone to England are being educated at hill schools and other schools in India.

But the great majority of the children of the domiciled European and Anglo-Indian community receive the whole of their education in India. They are born, brought up, and, with the exception of the few who, by sheer ability and force of character, do exceptionally well, live and die in India.

They are, in fact, natives of India, and it seems to me to be in the interests of India to make the best of them that can be made.

The community in question is not a "bookish" community. I do not think that the people composing it have, as a rule, much sense of the value of education for its own sake. Of course they realise that education is necessary in order to enable their children to earn a living, but the average parent removes his son from school as a matter of course the moment he sees his way to securing for him what he regards as a reasonably satisfactory start in life.

My knowledge of the domiciled Europeans and Anglo-Indians, both as boys and men, leads me to believe that in the members of this community India has an asset that has not hitherto been made the most of. I frequently meet members of this community who have done well in life but in a large number of such cases it has seemed to me that these men could have gone further, and done better, had they had, to begin with, something more of a liberal education. The members of this community have positive qualities that are not too common in India, which it is desirable to utilise to the best advantage by associating them with a fuller training of mind and character.

I think it would be well to induce a larger proportion of the promising youths of the community in question to proceed to university education. At present a university career as a possible and desirable sequel to a school career is not sufficiently before them. Some progress has been made during the last year or two in educating the public opinion of the community in this direction. It is being realised that if Anglo-Indians are to hold their own they must begin life with a better educational equipment.

But it will be necessary, if university education is to be encouraged among Europeans and Anglo-Indians, to provide more assistance in the way of scholarships, and to make the facilities for it more attractive and more obvious by the provision of special hostels for European and Anglo-Indian students with adequate supervision and tutorial assistance.

V. EXAMINATIONS AND APPOINTMENT OF EXAMINERS.

General Memoranda.

ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT.

Students in India who pass the senior Cambridge examination have to go through a two years' course for the intermediate in arts examination. At Cambridge, however, such students may prepare for the B.A. I think the same system should be adopted in India, as in Cambridge, and a student who has passed the senior Cambridge should be allowed to sit for the B.A. examination of the University.

DAS, KEDARNATH.

It is desirable that the Commission should make a definite pronouncement regarding the appointment of examiners. These appointments have been regarded in the light of University patronage to be distributed by the executive, as widely as possible. These appointments have always been in the gift of the Syndicate. Before the new regulations came into force, the members of the Syndicate never accepted examinerships, and even if any one was specially requested to do so, he gave his services without any fees. Under the present regulations a special clause has been introduced by which members of the Syndicate are not debarred from acting as examiners and receive fees.

It has also been held by certain members of the Senate, that examiners *must* be changed after a certain period, say two or three years, even if a good man is not available after that period to replace the former examiners. Distribution of university patronage again! The question is never looked at from the point of view of having the best man available for the work, but to have any man irrespective of his fitness for the appointment. It has been seriously stated by a former dean of a faculty that *any* graduate is capable of performing the duties of an examiner!!!

I am decidedly of opinion that examiners should be appointed with the sole object of securing *the very best man* available for the remuneration offered by the University, and not with the object of distribution of patronage to as many men as possible, irrespective of their possession of the requisite qualification. If the very best man offers to give his services year after year, we should employ him.

GHOSH, RAI HARI NATH, BAHADUR.

In order that all might have a chance of getting a fairly good grounding in general education, the practice of allowing a choice of subjects should be abolished up to a fairly high standard and to attain this object I would certainly bring back the old F. A. The division of the same into I. A. and I. Sc., has, in my experience, lowered general educational efficiency so far as individuals themselves are concerned. I must admit that such a division has served the purpose of expanding education. But considering the fact that the popular zeal for education is so intense, we need not keep to a plan which will ultimately lead to the multiplication of a set of comparatively inefficient weaklings with more or less one-sided knowledge. I have been shocked to find a boy going up for his B.A. and not knowing what the specific gravity of a substance is. Speaking of the present times, it has been a difficult matter to find a private tutor for our children, for the man who is a B. A., does not know science. The split in the pre-graduate state of education has thus raised an economic difficulty. The time thus has come to scan the result of changes that have been introduced in the university curriculum and to reconsider seriously the matter restoring the *status quo*, up to the F. A. standard.

HAMILTON, C. J.

I have emphasised in my answer to question 1, the radical defect which appears to me to lie at the very root of the higher educational problems of India, namely, a false method both of teaching and examination due to the defective quality of the teachers. If this defect is to be remedied it is necessary to consider with great care the proper mode of appointing university teachers and examiners.

I will consider first certain points bearing upon the appointment of the university teaching staff. There are two main questions that arise in this connection :—

(*a*) The terms of appointment.
(*b*) The mode of appointment.

The necessary conditions of a satisfactory teaching service are, in the first place, to attract a sufficient supply of able young students from among whom the junior members of the staff may be recruited. In the second place, it is necessary to offer sufficient inducement to attract into university service and to keep those capable of filling the higher teaching posts. With regard to the first point, I am strongly of opinion that junior members of the teaching staff should not be appointed from among such recent graduates as have had no further training than that implied in the possession of a master's degree. Again, junior members of the University teaching staff should not, as a rule, be appointed from among those of the staffs of schools or colleges who have done no further university work than that involved in taking their degree. Research under a senior professor should be regarded as a normal condition precedent to a university teaching appointment. A stage is therefore required in the educational career between the taking of the final degree and the beginning of work as a university teacher. Experience seems to show that a sufficient supply of able students devoting themselves for a period of say two years, to independent work of a research character will not be forthcoming in the absence of an adequate economic inducement. If the inducement takes the place of an appointment as a junior lecturer responsible for preparing the under-graduates in a part of their degree course there is great danger that the students will suffer through the immature work of these lecturers. The achievement of a high place in the degree examination is not a guarantee of the qualities necessary in a teacher. In any case teaching for a degree requires experience which a recent graduate can scarcely be expected to possess. If one of the chief qualifications of a teacher is a power to stimulate thought and to treat his subject with some measure of independence the teacher himself must have had a further opportunity of developing these powers than can be found in his under-graduate career The only solution therefore is to attract a supply of the abler graduates and to subject them to say, a period of two years, in which their quality as research students and as expositors of their subject may be tested, without imposing upon them the actual burden of teaching which would be a hindrance to themselves and an injustice to the students. The only way of achieving this object is to have a sufficient number of fellowships or research studentships adequately endowed. From among these University fellows the junior members of the staff will be recruited. Even then it is necessary to insist that appointments to junior lectureships should, in the first instance, be for relatively short periods ; say for terms of two years. During this period their work should be tested by senior members of the staff. This could be done if the pupils under the charge of the junior lecturers were subjected to sessional examination, or were obliged to submit occasional essays to a senior member of the staff. Those who had proved sufficient capacity as junior lecturers should then be eligible for appointment to a higher grade in which the term of appointment should be considerably longer and in which the salaries should be sufficient to retain in the service of the University those whose abilities would enable them to earn high salaries in administrative service outside. Above these again there should be a grade of senior professors.

Regarding the senior professorships, I think it is of great importance to insist that they should not necessarily be recruited from the ranks of the existing university staff. The present conditions of India must be borne in mind. If real progress is to be achieved in the work of Indian universities, implying the establishment of a new tradition as to the method of learning and examining, it is imperative that a sufficient number of men capable

HAMILTON, C. J.—*contd.*

of establishing this tradition should be enlisted. I am very far from suggesting that such men must necessarily be non-Indians. It cannot even be asserted as an absolute rule that they should have been trained outside India. At the same time I believe that for some years to come a large infusion into Indian universities of able teachers trained in the best schools of the West is essential. It must be remembered that Indian graduates are looking more and more to high Government appointments where their success or failure will depend upon the possession of initiative and breadth of outlook. If the higher ranks of the public services are not to be recruited entirely from among those who have received a western training, it is the more necessary that in the Indian universities themselves should be found in considerable numbers those familiar with other than purely Indian methods and Indian ideas. If this be admitted I think it follows that there should be a considerable number of posts held by men who have already proved their capacity as students and teachers outside India and the question arises how these appointments may best be made. In my opinion, the Senate of the University may possibly not be the best body to make the choice. The Senate is not unlikely to be influenced in favour of local candidates. Again, a large body like the Senate is not necessarily the best judge of academic qualifications. To leave the appointment to the Senate subject to a Government veto is also unsatisfactory. If the veto is exercised it reflects both upon the man vetoed and upon the Senate in a way that is undesirable. Having regard to the conditions and the needs of the situation I should suggest that the appointment to the senior professorships should be in the hands of Government entirely and that these professors should be made members of the Government educational service in a special grade. This grade should not be recruited from the other grades of the Indian educational service who may be engaged in work outside the University.

With regard to junior appointments, they should be made by the Senate on the recommendation of the Academic Council of which the senior professors should be *ex-officio* members.

With regard to the appointment of examiners, it is clear that the method to be recommended is largely dependent upon the character of the university organisation that may be supposed to exist. It must not be thought that by any modification of the mode of appointing examiners defects can be removed which have their foundation in the defective character of the examination itself. If the nature of the present matriculation examination be considered, it will at once be seen that it serves two purposes which are quite distinct from each other. On the one hand, the matriculation examination serves to mark the successful completion of the school education. On the other hand, it serves as the entrance test imposed upon those anxious to pursue a course of university study. I think it will be clear that these two purposes are very different and from the nature of the case cannot properly be fulfilled by the same kind of examination. In all countries the numbers attending the secondary schools are very large in proportion to the numbers subsequently completing a university career. Further, I think it may be argued that as many pupils as possible should be encouraged to complete a school education whatever be their standard of attainment. The character of the school final examination should be so conducted as to mark the satisfactory completion of the normal school course by the normal scholar who has reasonably benefited by his opportunities. Of course the examination may also differentiate between those of normal and those of higher ability. The standard, however, must be determined by the intellectual attainment of the typical scholar. It is the pupils themselves that really set the standard and it is not desirable unduly to restrain the number of pupils in order to improve the standard of examination.

On the other hand, the entrance examination imposed by a university ought not to be regarded as an end in itself, but as a means to ensure that those who are admitted as under-graduates possess both the necessary general education and the necessary ability to afford a reasonable prospect that the university course will be completed with success. The standard of attainment imposed by this test should be considerably higher than that reached by the normal scholar who completes the school course. It is obvious that there must be co-ordination between the work of the school and the University. The preparation for entrance to the University must be given in the school and it is not desirable to multiply examinations unnecessarily. It may be possible under certain conditions to recognise the school final examination as equivalent to the university entrance examina

HAMILTON, C. J.—*contd.*

tion. In any case the University must have an entrance test which is distinct from the school final examination, both because in many cases there may be a gap between the time when a pupil leaves the school and when he seeks admission to the University, and because the University must have in its own hands the ultimate determination as to what students it will accept. It is not quite easy to determine the principles upon which an entrance examination to the University should be based. On the one hand, it might be argued that it is desirable to encourage as large a number as possible of the young men of a community to pursue their studies as far as they are able whatever may be the final standard of their attainment; in which case, it would be undesirable to place any restrictions upon entrance to the University. This position is more easily defended when the whole cost of the university career is borne by the students. But it is inevitable that the University itself should take into consideration its directly utilitarian function of turning out graduates qualified for certain positions in the ordered life of the community. It is undesirable from the point of view of economy, both of money and effort, where the university organisation is maintained out of public funds to any large extent that numbers of under-graduates should be received who have little or no prospect of qualifying for the avocations for which a higher training is a necessary preliminary. In this case, therefore, admission cannot be freely granted to all who are ready to try their luck. It must be reserved for those who have a reasonable prospect of success. Thus the numbers admitted to the universities and the standards imposed upon the students will in this case be determined by the abilities of those who are able finally to fill the professional and administrative posts for which a high training is required. It is a national waste for the State to prepare an unnecessarily large supply of candidates. It is sometimes said that in India university education should only be the privilege of those who are willing to pay for it. From a social point of view the justification for this theory rests upon the broad assumption that those who are able to pay are also those best qualified to fill the posts for which a university training is a preliminary. This assumption does not seem to me to be justified. I hold, therefore, that in India it is very definitely the duty of the State to bear, at any rate, a large part of the burden of University education, and, as I have suggested, this seems to carry with it the obligation of the university not to waste public funds by admitting students who are unlikely to be able in after life to justify the public outlay incurred on their behalf. Hence the entrance test should be fixed relative to this object. It follows that the entrance examination to the University will bear no necessary relation to the normal standard of attainment achieved at the end of the school career. The test should be so devised as to give a high percentage of final success in the degree examination and a fairly complete absorption of the graduates into the professions and administrative services of the community.

I will assume therefore that the question of the method of appointing examiners may be considered with reference, on the one hand, to an examination which serves as a test of the work done in the schools, and, on the other hand, in relation to the examinations of a teaching university leading to a degree. If the school final examination is no longer the university entrance examination there is no obvious reason why the conduct of the school final test should be in the hands of the University. The work of examining large numbers of school candidates, if it is to be distributed among examiners, the greater part of whose time is already fully occupied with other duties the number of such examiners must be very great if the results of the examination are not to be unduly delayed. This in itself is an evil. For it is probable that it will be difficult to find a very large number of examiners who are really qualified for their work, and, in any case, the task of maintaining a uniform standard will be much more difficult.

Again, there is much in favour of combining the work of school examination with the work of school inspection. I am therefore in favour of transferring the work of school examination to the Department of Education which should constitute a board of examiners which, if possible, should act for the whole of India. The staff serving under the Board should be a whole-time staff devoted to examining and the supervision of teaching in the schools. The staff should be recruited from among candidates who have had experience themselves of school teaching. In the case of the university examinations the appointment of examiners should be in the hands of the University and the examiners themselves should be members of the university staff, or examiners recognised by the Government

Board of Examiners. The appointment of the university examiners should be in the hands of the Boards of Studies subject only to the confirmation of the Senate. Neither the Syndicate nor the Senate should have the right to appoint examiners except upon the recommendation of the Boards of Studies.

HUQUE, M. AZIZUL.

University publications—reports, studies and lectures, etc.,—ought to be very cheap that they may reach a larger section of the people. And so should also be all Government publications. These publications have an educative value of their own. There cannot be any widespread intellectual curiosity until current facts and figures are brought within easy reach of the general public.

2. The University should permit casual studies and researches for all graduates by opening its classes and libraries for any casual term.

3. Instead of too many class lecturers for post-graduate students, M.A. students, if studying within the University, should—

(*a*) make investigation on particular problems under a teacher,

(*b*) study, preferably in groups,

(*c*) teach or coach under-graduates of the University.

4. Of late, a cry has been raised against the University by a section of the Senators, expressing alarm at the large percentage of passes—a cry that has now also been taken up by a section of the English press. I take it as very damaging to the best interests of the country that such a cry should be raised at all at this juncture of our history. Those who have raised this cry, have now forgotten that the reformed regulations of the University were introduced to abate the evil of a great army of failed candidates, which the Hon'ble Mr. Raleigh described as a curse to the country. If the result to-day is actually what was intended in 1903, surely, there is nothing to be alarmed at. The momentum of progress and enlightenment has not to be judged by merely the results of the University examinations. Failures are as serious as successes. The questions are:—Has the outlook of India widened? Are we preaching advanced ideas on the land? Have we been feeling for the people as a whole—are our movements directed towards popular education, progress and uplift? Judging the life of the University as an organic whole, no Indian has ever repented for what the University has hitherto done and stood for. The present system has liberated the Eastern mind from its static towards dynamic condition, from the stagnant condition of thraldom towards the moving path of renaissance. For this purpose, not only the highest, but all Western education has been useful. Reforms are needed that India may get such an education that would fit her to occupy that position which she is destined to take up in the morning twilight of the future. The progress of a nation is intimately bound up with its education. The wealth of Ormuz and of Ind is now a thing of the past, and in evolving any system we must make it as cheap as possible. Without paying too much attention to building, furniture, etc., we must first of all provide for those studies that would build up the India of the future as a prosperous and progressive agricultural industrial country in the British Empire with the lesson of the war writ large, *viz.*, autonomy, in her needs and requirements.

NOTE.—Attention is also drawn to my book—*History and Problems of Moslem Education in Bengal* published by Messrs. Thacker, Spink & Co.

Scottish Churches College Senatus.

With reference to the existing practice according to which students who fail in the Intermediate or B.A. examinations are required to re-attend classes in order to be allowed to appear again for the examinations, we desire to suggest that this practice should be altered.

We are of opinion that any student who has once been sent up for the examination should be allowed to appear in future years also without having to attend further classes; or at least without having to attend classes other than those in the subjects in which he has failed.

The present arrangement whereby students are required to attend lectures covering the same ground as they have already gode over, encourages carelessness and inattention on the part of these individuals and is demoralising to the classes of which these individuals form part.

SHIRRAS, G. FINDLAY.

(1) The University problem in Calcutta (paragraphs 1 and 2).
(2) The difficulties which have to be faced in dealing with this problem (paragraph 3).
(3) The constitution of an ideal university in a city like Calcutta (paragraphs 4—8).
(4) An examination of the results of the Calcutta University examinations since 1900 as compared with those in other Indian universities (paragraphs 9 and 10).
(5) The number of under-graduates in Calcutta University as compared with those in other Indian universities (paragraph 11).

This memorandum deals with the university problem, the difficulties peculiar to a university in a large population like Calcutta, and also with the statistics of examinations of Calcutta University as compared with other Indian universities since 1900. The memorandum has no official character whatsoever. I am alone responsible for the statements which it contains. The views expressed are based mainly on one's experience as a professor of economics, as a university reader in Indian finance and currency, as an inspector of schools, as a member of the Senate for the last eight years, and also for the last four years as an employer of graduates of the University.

2. In trying to make up my mind as to what arrangements are best for a university such as ours, I have been hindered at the outset by the lack of any definite agreement as to what the essentials of a university in this country are, especially in a centre of a large population. In the past we have been attempting to solve two entirely different problems—the problem of an examining university on the one hand, and the problem of attempting to mould a university on the lines of Oxford and Cambridge. Sir Richard Temple in his book *India in 1880* defines an Indian university thus: "A University in India is a body for examining candidates for degrees and for conferring degrees. It has the power of prescribing text-books, standards of instruction, and rules of procedure, but is not an institution for teaching. Its governance and management are vested in a body of fellows, some of whom are *ex-officio*, being the chief European functionaries of the State. The remainder are appointed by the Government, being generally chosen as representative men in respect of eminent learning, scientific attainment, official position, social status, or personal worth. Being a mixed body of Europeans and natives, they thus comprise all that is best and wisest in that division of the empire to which the University belongs, and fairly represent most of the phases of thought and philosophic tendencies observable in the country. The fellows in their corporate capacity form the Senate. The affairs of the University are conducted by the Syndicate, consisting of a limited number of members elected from among the fellows. The faculties comprise arts and philosophy, law, medicine, and civil engineering. A degree in natural and physical science has more recently been added." In the last ten years a change has taken place, and the University has become something very different from what is understood by an examining university. It is, however, now beginning to be realised that the type of university such as that of Oxford and Cambridge will not suit Indian conditions, just as that type will not suit universities in other centres of a large population. Oxford and Cambridge are unique with one or two other exceptions among the three hundred or four hundred universities of the world. It is also now realised that we have failed to build up an adequate university because, among other reasons, we have been too much under the sway of the ideals and methods of some western universities, especially of Oxford and Cambridge, which have to deal with an essentially different and much simpler problem. Oxford and Cambridge are not dependent upon public funds for their maintenance, and their history, as pointed out by the Haldane University Commission, makes their govern-

SHIRRAS, G. FINDLAY—*contd.*

ment by teachers and graduates reasonable, or at least explains it. The case of Calcutta University is different. It is a modern city university, which, if it is to flourish, must be, as it now is not, an integral part of the city, controlled by a body composed mainly of representative citizens supremely interested in its welfare. Its constitution and organisation must be conditioned by the peculiar difficulties which it has to meet owing to the large territory and population which it has to serve. The University of Calcutta, at the present time, has an area assigned to it of 376,000 square miles, and it serves a population of nearly 65½ millions. Notwithstanding the creation of Patna University, it has still the largest number of colleges, 29 per cent. of the total number of colleges in British India, and within its area there is 49 per cent of the total number of high schools. The detailed statistics will be found in Appendix I. The following table summarises the position :—

UNIVERSITY.	Area assigned in square miles.	Population.	Colleges.	High schools.
Calcutta	376,402	65,480,716	56	854
Madras	237,159	59,766,897	48	227
Bombay	195,111	29,127,722	14	154
Allahabad	452,408	84,436,197	39	225
Punjab	394,138	32,015,118	25	180
Patna	111,881	38,435,293	11	103
Mysore	29,475	5,806,193	4	5

This table speaks for itself. At the present day Scotland has four universities, and feeds a population of less than five millions. Its universities have over 6,000 students and graduates. London University has a sphere of 2,800 square miles and serves a population of 8½ millions. Sweden, Norway, and Denmark, which have a total population of 11 millions, have half a dozen universities; Belgium with a population of 7½ millions has half a dozen universities, as has Holland. The magnitude of the population to be served by the University is, it will be seen, very great, and in the next two or three decades will continue to increase at a very rapid rate. This has to be remembered when revising the constitution. The University of Calcutta is also conditioned by the lack of efficiency of the secondary or high schools, which are unable to give a sound general education to those who seek a university career. Power of accurate expression and orderly thought are a *sine qua non* of the under-graduate student's work, but at the present time candidates come up from the high schools without a sufficient grounding. The University is also hampered by financial difficulties which preclude the entertainment of a staff which appears necessary for the undertaking of the instruction of large numbers of pupils who annually seek its degrees. Another feature of the University is that it is a university for the sons, and also to a small extent for the daughters, of those of very limited means, and it cannot suit itself "to skim from the surface of society the topmost layer of rich men's sons and scholarship winners," as do Oxford and Cambridge. We must also accept the fact that Calcutta University will not and cannot ever be a university of residential colleges. Little in the nature of Oxford or Cambridge is possible, and the hostel system can mean in this country very little more than a system of co-operative lodging houses. We are now beginning to see that the University cannot work well so long as the present relations between

SHIRRAS, G. FINDLAY—*contd.*

colleges and the University continue. We shall never organise a homogeneous University by connecting a number of independent institutions with a central degree-giving body. At the present time Calcutta University is pulled in various directions. It is attempting to fulfil the function of providing its students with a hall-mark in the nature of a degree without the infusion of any real university spirit. An examining board can never constitute a real University. As a collection of colleges the University finds its chief duty in supervising, however inadequately, the charge of youths between the ages of sixteen and twenty-five. Its function in this respect is similar to the supervision exercised over secondary schools by the Education Department. The University is finding it extraordinarily difficult to fulfil the ideal of giving the maximum of liberal culture owing to the overwhelming importance given at present to written examinations. The University is also attempting the departmental system with professors and lecturers, laboratories, etc., a system which is recognised in modern times as a distinct type of institution which plays an indispensable part in the organisation of modern industry. This latter ideal raises the whole problem of vocational training. The University has to aim at general culture and also definite vocational schools. In connection with the latter case, it should be remembered that vocational instruction and advanced courses of study may be multiplied indefinitely without providing university education. We have not that living intercourse between students and between students and teachers which ought to exist in a university. University teachers, like the students, do not feel they are included in a single corporate body, nor do the teachers feel members of a single professoriate with its attendant inspiration, mental freshness, and common intellectual life. We have not reached the ideal of the University depicted by Matthew Arnold in his *Higher Schools and Universities in Germany*, namely, "that of an institution not only offering to young men facilities for graduating in that line of study to which their aptitudes direct them, but offering to them, also, *facilities for following that line of study systematically under first-rate instruction*. This second function is of incalculable importance; of far greater importance, even than the first. It is impossible to overvalue the importance to a young man of being brought in contact with a first-rate teacher of his matter of study, and of getting from him a clear notion of what the systematic study of it means."

3. Next as to the difficulties militating against the establishment of a real university. Several of these have already been referred to in the previous paragraph. It has been pointed out that there is no unity of purpose and little university spirit, because it is impossible for any university to work well so long as the present relations between the colleges affiliated to the University exist. The University is connected by means of recognition to individual institutions which are of a very varying educational standard. The colleges and teaching institutions regard themselves, and are regarded, as the units of the university organisation. Internecine jealousy and competition exist, and each local institution, at least the larger of them, is striving to swell itself into a microscopic university. We shall return to this when dealing with the Constitution of the University. Among other difficulties may be mentioned:—

(*a*) The students who seek this training are not in most cases able to take advantage of a real university course.

(*b*) The under-graduates are not placed under the personal guidance of teachers of first-rate standing in the schools, because the University and the colleges cannot afford to pay professors the salaries which the Civil Services can.

(*c*) With one or two rare exceptions, teachers and students alike have not access to large libraries.

(*d*) No large degree of freedom in study is possible. The University lacks faith in its teachers, and, as a reference to the University Calendar will show, the minutiæ of study are laid down, and numerous books are prescribed or suggested for study.

(*e*) Lastly, the staff is not sufficiently specialised, nor is it sufficiently strong, as, for example, in economics, to allow university professors independent investigation in their own subjects. There may possibly be exceptions to this, but they are few and far between.

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4. The ideal university cannot be achieved without a thorough overhauling of the entire system which obtains. In the distant future, it may be possible to have three universities in Calcutta, a State University, a University of Calcutta, and for colleges outside Calcutta, a University of Bengal. This ideal, however, is perhaps at present impracticable owing to the terrible scarcity of teachers. It is hardly possible at present to get a competent staff even for one university. It seems necessary, therefore, to have one university for the present, and to separate the B. A. and B. Sc. honours from the B. A. and B. Sc. pass degree. The University might teach only the B. A. and B. Sc. honours and the M. A. degree, leaving to its affiliated colleges other than those intimately connected with the University, the teaching of the B. A. pass degree. Into the University should come those educational institutions which were established by the University such as the Law College, or which are strong enough in one or more ways to comply with the conditions which are to be laid down by the University. No institution should be considered strong enough to become a constituent college of the University unless it is able to provide the full course for the B. A. and B. Sc. honours. For some time to come, it will be necessary for the University to control affiliated colleges other than the constituent colleges of the University. Out of the 56 colleges at least 50 would be unable to do real university teaching. The University should control every one of these 50 colleges by insisting that appointments by colleges to the staff of these colleges should be approved by the University, and the University should have control over the finances of the colleges.

5. Students seeking admission to the University should have a better equipment, and in order that this may be attained, the matriculation examination should be recast. The matriculation examination as a test has failed, as the experts of 1906 who framed the regulations have also failed. As a test the matriculation examination is not sufficient to ensure that a candidate for a university career is able to profit by university instruction of every kind. The matriculation examination is regarded as the culminating point of high school education. It is, however, an insufficient test of attainment. It is one-sided, lending itself readily for mathematics, but it is an indifferent test for the thinker. It encourages a rapid memory and discourages the use of the ear and tongue, which are, especially in regard to English, of as much importance as pen and paper. Indians who have passed the examination under the old system are almost entirely unanimous in thinking that the test in the old days was a much more searching one than is now the case, and it is suggested that an examination partly of prescribed books and partly of unseen texts is the first necessity of reform. I should like to go further and suggest that a leaving certificate on the model of the German *Abiturienten-Zeugniss* which would attest that the scholar has lived the school life year by year and passed out of the school with the "course" complete, would be preferable. Such a certificate would certify not merely the attainment of a student at one critical moment, but by its comprehensive character it would take into account the entire school record. When a German inspector acting as a school examiner enquires into the attainments of the pupils and along with the teachers awards a leaving certificate, he is not merely a marking machine, but a free intelligence, coming into personal contact with candidate and teacher. His long experience gives him an adequate acquaintance with the public standard, and he supplements his own judgment by the opinion of the staff of the school who are in Germany trusted by public opinion Such a certificate would prevent the crippling of the initiative of the teacher. The objection to a school leaving certificate is that the inspection staff is inadequate to cope with the work, and it would have to be increased probably three or four times. The granting, therefore, of such a certificate would have to be entrusted to a larger body than the present Education Department, and it would have to be a large body which would have behind it the strong support of public opinion. It will be seen from the statistics of examination results referred to below, that the percentage of passes in the Matriculation has been high as compared with other Indian Universities, and this at first glance seems to call for an explanation as to why the University in order to get well-equipped students did not demand a much higher standard. It is the examination that is at fault more than the pupil. To any one who has visited high schools in Bengal, it would appear that the teaching of English is obviously imperfect. The teachers do not use the language out of school to any extent, nor do they find it possible to study English by the ear and

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tongue. In order to better the study of English and to devote more time to spoken English, it would be preferable for students to do their history and other subjects in the vernacular up to the Matriculation or Leaving Certificate, and to utilise the time thus saved to written and spoken English. The advantages would be two-fold. It would perfect the study of English as also of the vernacular. The intermediate examination stages may be part of the school course, and it would be advantageous if the Intermediate could be bifurcated, so that it will be the culminating point for those not seeking a university career (with a definite hall-mark of attendance), while for others it will be a hall-mark of fitness for a true university career. One thing, however, is certain at the present time, and that is this—unless the standard of entrance into the University is considerably raised, any reform within the University itself in the way of securing better university training will be largely nullified.

6. The teaching of the University should be grouped into departments and faculties. At the head of each department should be a university professor. So far as the Department of Economics is concerned, teachers are appointed who are not always experienced teachers or real experts in their subjects. In economics, for example, the professor has not, until recently, been able to get the assistance of expert lecturers. We require to follow the example of the London School of Economics or of Berlin where there is a fully equipped staff to deal with the various branches of the subject. In Berlin University there are at the present time five ordinary chairs of economics, and the occupants are more or less specialists in one or other branches of the subject. Sering, the senior Professor, is interested mainly in agriculture; Herkner, Schmoller's successor, is interested in social questions; Bernhard has a reputation of being a wonderful teacher in general theory; Schumacher is a financial specialist; and Sombart is an authority on the theory and history of capitalism. Schumacher, who is mainly responsible for public finance in Berlin University has travelled in the United States, was a civil servant both in Prussian and Imperial departments, and professor of economics of Kiel in 1899 and at Bonn in 1901. Specialisation is essential, and it would be necessary in order to get the most capable men, to compete with the salaries paid in the senior services of the country. At present the University does not attract men who have a first-hand knowledge of the subject, because it cannot afford to pay salaries which Government pays its civil servants. Another criticism which might be passed on the Economics Department is that little initiative is left to the professor or his assistants. The syllabuses are too ambitious, and the pupils are confronted with a large range of text-books. Speaking as an examiner in economics for the past eight years, I should like to emphasise that the greatest possible freedom should be given to professors (who should be real professors) and the false specialisation which now exists should be done away with. It is also necessary in order to preserve continuity of examination standards that there should be only a few examiners for each subject, ordinarily about half a dozen at most, probably less. Such examiners will be a body of picked men, the professors being examiners assisted by co-examiners from outside the Department. What has been said as regards the School of Economics would apply in the main to the teaching of technology and commerce. There is room for the teaching of technology and commerce in the Univeristy. I doubt whether the teaching of agriculture should be undertaken as Pusa, Poona and other places are already equipped for this work, and it would be preferable for the University to specialise in one or two schools rather than to dissipate its efforts over a wide field. If the Department of Technology is formed, engineering should be included. If commerce is taught, it should be given a separate faculty. In regard to the course for a commerce degree, economics, accounting, mercantile law, and economic history and geography should be obligatory on all candidates, and the course for the degree should extend for not less than three academical years. A full course in one or more modern languages such as, French, German, Japanese, Russian, etc., and a course in science of industrial and commercial importance such as chemistry and physics, including practical work, would be advantageous. One scientific subject only should be taken, or as an optional, a second modern language. English might be substituted by students whose native language is other than English. Another group of subjects, such as, higher economics, international law, banking, statistics, and imperial and colonial history should also form the latter part of the course, and, if possible,

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apprenticeship in a firm should be included. The main features of such a scheme should be decided upon after consultation with commercial and industrial experts.

7. Of the reforms, the most pressing need is the reform of the Senate, and the delegation of its power especially to faculties. The Senate of the University is not adequately representative of the City of Calcutta, as a senate of a city university ought to be, and it is too large and heterogeneous to be an efficient executive body. The Senate deals at present with the minutiæ of the university administration in a way that is altogether unnecessary. The Senate should be, like the university court of many modern universities, the governing body, whose supreme function should be its legislative power, and short of the interposition of Government, the only means of altering the constitution and government of the University. The control of the Senate over the entire management of the University should be exercised entirely by means of statutes (which should be few and simple) and regulations. Statutes would be passed at one meeting of the Senate and confirmed at a subsequent meeting in each case by a majority of not less than two-thirds of those present as voters. The Senate or Court would decide any matter referred to it by appeal from the Syndicate. It would appoint professors to the chairs that are, or may come to be, in the patronage of the University, and it would perform other functions similar to those at present enjoyed by the university courts in modern universities. The Syndicate should be the executive body of the University, as hitherto, and should have the management and administration of the University. It should deal with matters which are at present dealt with by the Syndicate so far as the main lines of administration are concerned, but it should delegate a very large portion of its powers to a council which might be called the " Academic Council." The Academic Council should consist of the Vice-Chancellor, the deans of the faculties, and selected teachers from the various schools of the University. More power should be given to the faculties and the departments of the University, especially to the former. If the Faculty is made the unit, and professors are compelled to work for the improvement of the Faculty as such, the result would be greatly to the benefit of the University. It will put an end to the disruptive forces in the University creating internecine jealousy and competition for students, which have been appositely termed the " instinctive megalomania " of the colleges. The head-quarters staff should consist, in addition to the Chancellor, who would be an *ex-officio* member of the Senate or Court, a Pro-Chancellor who would preside at the meetings of the Senate or Court in the absence of the Chancellor, of a Vice-Chancellor who would be a permanent salaried official and the chief administrative officer of the University. The Vice-Chancellor should be *ex-officio* member of the Syndicate and all its committees, and of the Academic Council and the faculties. The Registrar should be responsible for the registration of students and graduates of the University as well as Secretary of the Senate and Syndicate, and he should be the chief officer of the Vice-Chancellor's clerical staff. It would satisfy the *amour propre* if His Excellency the Viceroy, when no longer Chancellor, would be Visitor of the University. The constituent colleges should be concentrated, as far as possible, in one area. The present university buildings should include more suitable accommodation for the Senate, for committees, and for the head-quarter staffs. There should also be ample accommodation for a club house and for a large central university library together with a more suitable hall for the university convocation and large educational gatherings.

8. Before proceeding to an analysis of the statistics of passes, it is important to remember, by way of a caveat, the defects of these examinations. The Haldane University Commission summed up the position in regard to London University as follows: "All that is provided is a syllabus, and all that the examination can profess to test is a knowledge, at the time of the examination, of the subjects prescribed by the syllabus, because the candidate may get his knowledge in any way he likes. He may work hard and well, and he may have the best instruction, but the test of the examination affords no sufficient evidence of this. As far as it tests his knowledge or information alone, it can obtain evidence only of memory, and not even of lasting memory, because, in the case of some subjects at any rate, cramming is the most successful way of preparing for the test, and it is notorious that a good coach can enable a candidate even to dispense with cramming more than fragments of a subject prescribed. In some subjects the questions are more

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in the nature of tests of capacity than of memory, but, as Mr. Hartog points out, in order to afford evidence of capacity the standard of marking in the case of these subjects would need to be much higher than in the case of tests of memory. Whether it is reasonable or not to accept 30 per cent. of the full marks when you are testing memory, it is clear that if the question is intended to test a candidate's capacity to do a thing the percentage of marks required ought to be much higher. "A boy who can only do right five addition sums out of ten cannot add. A person who reads a thermometer accurately five times and inaccurately five times cannot read a thermometer. A person who understands nine-tenths of the words in an easy passage in a foreign language, with or without the use of a dictionary, but is at sea in regard to the meaning as a whole, has not brought his knowledge of the language to a useful point."* No doubt the successful candidates for external examination have to work hard. We do not suggest that the examinations are easy to pass; the large percentage of failures is sufficient evidence that they are not. But the large number of failures also proves that a wide syllabus of prescribed subjects with an external examination as the test of the information acquired, inevitably tends to uneducational methods of work, and that far too many of the candidates are only "having a shot at it," because there is a fair chance of scraping through a rather indiscriminating test with a minimum amount of knowledge and a turn of good luck."

* * * * * "We shall make recommendations which will dispense with the necessity of the syllabus, by ensuring the appointment of teachers who can be trusted with the charge of university education. Teachers who can be trusted with this far more important and responsible duty can also be trusted with the conduct of examinations, in so far as they are accepted as proper and necessary tests for the degrees of the University. But examinations, even when conducted by the teachers of the university, and based upon the instruction given by them, ought not to be the only tests for the degree. It is not right that the work of years should be judged by the answers given to examination papers in a few hours. It cannot be fairly tested in this way. However conducted, such examinations are an insufficient and inconclusive test of the attainment of a university education and when account is taken of individual idiosyncracies and the special qualities which examinations favour, and when allowances are made for the accidents which inevitably attend such limited and occasional tests, it appears to us only fair that due weight should be given to the whole record of the students' work in the University. If the academic freedom of the professors and the students is to be maintained—if scope for individual initiative is to be allowed to the professors and the students are to profit to the full by their instruction—it is absolutely necessary that, subject to proper safeguards, the degrees of the University should practically be the certificates given by the professors themselves, and that the students should have entire confidence that they may trust their academic fate to honest work under their instruction and direction. There is no difficulty whatever in the University providing for such control, regulation, and publicity as will be an adequate guarantee of impartiality, and of such a measure of uniformity as may be considered desirable."*

9. Appended to this note will be found statistical tables showing the results of examinations in Calcutta University as compared with other Indian Universities during the last nineteen years. The figures for the three new universities of Patna, Benares and Mysore for 1918 have been added to the tables.

Matriculation.—The total number of candidates who appeared at the matriculation examination of the eight universities in 1918 was 33,000, as against 21,000 in 1900. Of these nearly half (15,000) appeared in Calcutta University. The total number of passes in 1918 was 17,000 or 52 per cent. as against 8,000 or 38 per cent. in 1900. During the last nineteen years, the highest percentage of passes was 79 in Calcutta (1910), 66 in the Punjab (1917), 61 in Madras (1915), 63 in Allahabad (1907), and 57 in Bombay (1913) It may be noted that in Madras various forms of school final tests are recognised as equivalent to the matriculation examination. This accounts for the rapid decrease in the number of candidates appearing in Madras University since 1908 (*vide* Table 2). On the average of five years (1914—1918) it appears that in the matriculation examination the percentage of passes is highest in Calcutta University, the Punjab comes next with

* Final Report of the Royal Commission on University Education in London, Part II.

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a percentage nearly approaching that of Calcutta University. The remaining seven universities have a lower percentage.

University.	Quinquennial average.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	13,634	8,417	61·7
Madras	52	17	32·7
Bombay	3,793	1,458	38·4
Allahabad	3,839	1,136	29·6
Punjab	5,368	3,160	58·9
Patna*	3,629	1,666	45·9
Benares*	45	9	20·0
Mysore*	403	138	34·2

* Figures for 1918

Intermediate Arts.—The total number of candidates who appeared in the intermediate examination in arts in 1918 was 17,000, of whom nearly 5,000 appeared in Calcutta University. The total number of passes was 7,000 or 45 per cent. as against 2,700 or 40 per cent. in 1900. In this examination, Bombay stands first in respect of the percentage of passes. The highest during the last nineteen years was 73 in Bombay (1910), 64 in the Punjab (1918), 63 in Allahabad (1904), 54 in Calcutta (1918) and 46 in Madras (1903). The percentage appears to be slightly increasing in Calcutta and the Punjab. On the average of five years (1914—1918) it appears that in the intermediate examination in arts the percentage of passes is highest in Bombay University followed by the University of the Punjab. Calcutta occupies the third place, followed by Allahabad and Madras. In Benares University the percentage in 1918 was 69.

University.	Quinquennial average.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	5,761	2,719	47·2
Madras	4,532	1,282	28·3
Bombay	945	578	61·2
Allahabad	1,966	881	44·8
Punjab	,062	601	56·6
Patna*	830	421	50·7
Benares*	91	63	69
Mysore*	30	11	36·6

* Figures for 1918

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Intermediate Science.—There is no intermediate examination in science in the universities of Madras, Allahabad and Mysore. It was introduced in Calcutta University in 1909. The total number of candidates appearing in this examination in 1918 in the five universities of Calcutta, Bombay, the Punjab, Patna and Benares was 2,455, of whom 1,485 appeared in Calcutta. The total number of passes was 1,389 or 56 per cent. of the number of examinees. On the average of five years (1914—1918) it appears that in the intermediate examination in science the percentage of passes appears to be almost the same in the universities of Bombay and the Punjab. It is higher in Calcutta.

UNIVERSITY.	QUINQUENNIAL AVERAGE.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	1,263	724	57·3
Madras	No examination.		
Bombay	120	57	47·5
Allahabad	No examination.		
Punjab	424	211	49·8
Patna*	156	109	69·9
Benares*	55	33	60
Mysore	No examination.		

* Figures for 1918

B. A. (Pass).—There are two courses for the B. A. examination, the "pass" course and the "honours" course. There is no "honours" course in Allahabad, Benares and Mysore Universities. The total number of candidates who appeared in the B. A. (pass) examination in 1918 was 6,754, of whom 3,012 appeared in Calcutta. The total number of passes was 3,739 or 44 per cent. as against 758 or 31 per cent. in 1900. The highest percentage was 78 in Bombay (1903), 69 in Allahabad (1902), 59 in Calcutta (1913), and 56 in the Punjab (1918). The percentage is increasing in Calcutta, but it appears to be declining in Allahabad. These figures exclude Madras University, because in the case of that University it is not practicable to ascertain the total number of candidates for the purpose of calculating the percentage of passes. The figures under "total number of passes" shown against "B. A. (pass)" of Madras University in Table 2 relate to the total number of candidates who qualified themselves each year for the degree after passing all the divisions or parts of the examination.† A separate statement (Table 3) has been appended showing the number of candidates examined and passed in each division or part in the different years. On the average of five years (1914—1918) it appears that in the B. A. (pass) examination, Bombay appears to

† In the Madras University, a candidate has to pass in three divisions or two parts of the B. A. degree examination under the old by-laws or the new regulations, as the case may be, in order to qualify himself for the degree, and he may, at his option, take the examination as a whole or appear by parts in different years.

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have a generally higher percentage. Punjab comes next, and is followed by Calcutta and Allahabad. In Mysore University the percentage in 1918 was 52·6.

UNIVERSITY.	QUINQUENNIAL AVERAGE.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	2,822	1,293	45·8
Madras	..	..	..
Bombay	535	258	48·2
Allahabad	1,039	405	38·9
Punjab	923	430	46·6
Patna*	445	186	41·8
Benares*	89	30	34
Mysore*	76	40	52·6

* Figures for 1918

B. A. (Honours).—The total number of candidates who appeared in the B. A. (honours) Examination in 1918 was 1,077, of whom 413 appeared in Calcutta. The total number of passes was 786 or 73 per cent. On the average of five years (1914—1918) it appears that in the B. A. (honours) examination, Madras University has a higher percentage of passes, Bombay and Calcutta coming next with an almost equal percentage. The percentage is low in the Punjab and Patna Universities.

UNIVERSITY.	QUINQUENNIAL AVERAGE.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	392	293	74·7
Madras	114	96	84·2
Bombay	233	179	76·8
Allahabad	No examination.		
Punjab	130	57	43·8
Patna*	17	9	52·9
Benares	No examination.		
Mysore	No examination.		

* Figures for 1918

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B.Sc. (Pass).—As in the case of the B. A. examination, the examination for the B. Sc. degree also has two courses, the "pass" and the "honours" course. The B. Sc. (pass) examination does not exist in Madras and Mysore Universities, and there is no "honours" course (although there is a "pass" course) in Bombay, Allahabad and Benares universities. The total number of candidates who appeared in the B.Sc. (pass) examination in 1918 was 728, of whom 359 appeared in Calcutta. The total number of passes was 396 or 54 per cent. as against only 10 or 67 per cent. in 1900. The highest percentage of passes was 100 in Bombay (1901), and in the Punjab (1902), 72 in Allahabad (1904), 65 in Calcutta (1916). The percentage of passes in this examination also, as in the case of the B.A. examination, appears to be increasing in Calcutta, but declining in Allahabad. On the average of five years (1914—1918), it appears that in the B.Sc. (pass) examination, the percentage of passes in Bombay is greater than in other Indian universities, the Punjab coming next, followed closely by Calcutta and then by Allahabad.

University.	Quinquennial average.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	352	194	55·1
Madras	No examination.		
Bombay	48	30	62·5
Allahabad	165	73	44·2
Punjab	52	29	55·8
Patna*	24	14	58·3
Benares*	18	6	33·3
Mysore	No examination.		

* Figures for 1918

B.Sc. (honours).—In the B.Sc. (honours) examination, which exists only in the universities of Calcutta, the Punjab and Patna, the total number of candidates appearing in 1918 was 153, of whom 125 appeared in Calcutta. The total number of passes was 108, or 70 per cent. The highest percentage of passes was 95 in Calcutta in 1908 and 75 in the Punjab in 1909. On the average of five years (1914—1918) it appears that in the B.Sc. (honours) examination, Calcutta has a higher percentage than the Punjab. The percentage in Patna University in 1918 was 80.

University.	Quinquennial average.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	131	94	71·7
Madras	No examination.		
Bombay	No examination.		
Allahabad	No examination.		
Punjab	20	11	55·0
Patna*	10	8	80
Benares	No examination.		
Mysore	No examination.		

* Figures for 1918

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M.A.—The total number of candidates who appeared in the master of arts examination in 1918 was 1,122, of whom 720 appeared in Calcutta. The total number of passes was 609 or 54 per cent. In 1900 the number of candidates was 329 and the number of passes 156, the percentage in this case being 47. The highest percentage of passes during the 19 years was 77 in the Punjab (1916), 76 in Allahabad (1914), 75 in Bombay (1900), 67 in Calcutta (1911), and 56 in Madras (1906). On the average of five years (1914—1918), it appears that in the M.A. examination, Allahabad has the highest percentage of passes, followed closely by the Punjab; Calcutta and Bombay come next. The percentage is lowest in Madras. In the Patna and Benares Universities the percentages in 1918 were 60 and 80 respectively.

University.	Quinquennial average.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	646	332	51·4
Madras	139	49	35·2
Bombay	110	53	48·2
Allahabad	92	64	69·6
Punjab	83	49	59·0
Patna*	10	6	60·0
Benares*	5	4	80·0
Mysore	No examination.		

* Figures for 1918

M.Sc.—There is no examination for the degree of master of science in Madras, Patna and Mysore Universities. It was introduced in the universities of Allahabad and the Punjab in 1908, in Calcutta in 1910, and in Bombay in 1914. The total number of candidates appearing in this examination in 1918 was 237, of whom 183 appeared in Calcutta. The total number of passes was 133, or 56 per cent. Calcutta University appears generally to have a lower percentage of passes in this examination than other Indian universities. On the average of five years (1914—1918), it appears that in the M.Sc. examination, the universities of the Punjab and Allahabad have a higher percentage of passes than those of Calcutta and Bombay.

University.	Quinquennial average.		
	Candidates.	Passes.	Percentage of passes.
Calcutta	144	75	53·1
Madras	No examination.		
Bombay	2	1	50·0
Allahabad	22	15	68·2
Punjab	14	11	78·6
Patna	No examination.		
Benares*	6	5	83·3
Mysore	No examination.		

* Figures for 1918

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10. It would appear from the above comparative statistics that the University of Calcutta, while occupying the first place in respect of the percentage of passes in the matriculation examination, generally fails to maintain that position in the higher examinations, and this seems to some extent to corroborate, *ceteris paribus*, the statement made above (paragraph 5) that the matriculation examination of Calcutta University has failed as a test of attainment for candidates seeking admission to the University.

Details of passes according to classes in each examination are given in the appended Tables Nos. 2 and 3.

11. *Under-graduates.*—Table No. 4 shows the number of under-graduates in the different faculties of the five universities in each of the last twelve years (1907—1918). The term "under-graduate" denotes one who has been admitted to a college, whose name is still on the rolls of a college and who has not yet taken a degree. It does not include those who having passed one degree proceed to another.

Number of under-graduates.

UNIVERSITY.	Ten years ago. 1909.	Five years ago. 1914.	1915.	1916.	1917	1918
Calcutta . .	10,230	22,531	24,135	25,787	28,257	26,759
Madras . .	5,741	9,508	10,305	9,914	8,522	8,495
Bombay . .	3,198	5,129	4,471	5,840	6,099	6,625
Allahabad . .	3,397	5,064	5,744	5,835	6,346	5,622
Punjab . .	1,107	1,759	1,867	2,249	2,264	5,159
Patna . .	..	..	..	..	..	3,190
Benares . .	..	..	..	..	..	694
Mysore . .	..	..	..	..	81	521

The total number of under-graduates in Indian universities has shown a steady increase since 1907. In 1918 the total number was 56,544 or over two and a half times the number ten years ago. Of this total, 47 per cent. was in Calcutta University, 15 per cent. in Madras, and the remaining 38 per cent. in the other six universities combined. Almost 87 per cent. of the total number belong to the faculty of arts. Of the total number of under-graduates in Arts (49,728 in 1918), nearly one-half (22,425) were in Calcutta University, nearly one-sixth (8,108) in Madras University, and over one-third in the other six universities combined. Under-graduates in medicine numbered 2,917 in 1918, of whom nearly one-half (1,334) were in Calcutta University, over a third (1,063) in Bombay, and over a fifth (520) in the other universities combined. In the case of engineering, however, Bombay stands first with less than half (148) of the total number (376), Calcutta standing second with over a fourth (85). The Punjab and Benares are the only two universities which have under-graduates in "oriental languages and literature," the total number in 1918 being 398. In 'other faculties,' Calcutta had nearly 80 per cent. (2,915) of the total number of under-graduates (3,646) in 1918.

APPENDIX.

TABLE 1.

Area and population of the territories assigned to the universities of India together with the number of colleges and high schools in British territories.

University.	Territorial limits.		Area in sq. miles.	Population.	Colleges.	High schools.
Calcutta	British—					
	Bengal		78,699	45,483,077	51	733
	Assam		53,015	6,713,635	3	38
	Burma		230,839	12,115,217	2	83
	Indian States—					
	Bengal States		5,393	822,565	..	..
	Assam State (Manipur).		8,456	346,222	..	..
	TOTAL	1916-17	376,402	65,480,716	56	854
		1911-12*	491,000*	103,916,009*	63	692
Madras	British—					
	Madras		142,330	41,405,404	48	224
	Coorg		1,582	174,976	..	3
	Indian States†—					
	Madras States		10,549	4,811,841	..	..
	Hyderabad State		82,698	13,374,676	..	..
	TOTAL	1916-17	237,159	59,766,897	48	227
		1911-12	291,966	69,679,440	35	202
Bombay	British—					
	Bombay (including Sind and Aden).		123,065	19,683,249	14	154
	Indian States—					
	Bombay States		63,864	7,411,675	..	..
	Baroda		8,182	2,032,798	..	..
	TOTAL	1916-17	195,111	29,127,722	14	154
		1911-12	195,105	29,117,115	15	133

* Included the area, population, etc., now assigned to Patna University.
† Mysore has been omitted although there are some institutions in the state still affiliated to Madras University.

SHIRRAS, G. FINDLAY—*contd.*

Area and population of the territories assigned to the universities of India, together with the number of colleges and high schools in British territories—contd.

University.	Territorial limits.	Area in sq. miles.	Population.	Colleges.	High schools.
Allahabad	British—				
	United Provinces of Agra and Oudh.	106,402	46,835,108	31	166
	Central Provinces and Berar.	99,823	13,916,308	7	50
	Ajmer-Merwara .	2,711	501,395	1	9
	Indian States—				
	United Provinces States.	5,944	1,178,972	..	..
	Central Provinces States.	31,174	2,117,002	..	..
	Central India Agency	77,367	9,356,980	..	..
	Rajputana Agency .	128,987	10,530,432	..	..
	TOTAL . 1916-17	452,408	84,436,197	39	225
	TOTAL . 1911-12	452,408	84,436,197	54	175
Punjab	British—				
	Punjab . . .	99,251	19,576,647	18	153
	North-West Frontier Province.	13,193	2,196,933	3	17
	Baluchistan . .	54,228	415,412	..	3
	Delhi . . .	573	412,821	4	7
	Indian States—				
	Punjab States . .	36,551	4,212,794	..	..
	North-West Frontier Province (Agencies and tribal areas).	25,500	1,622,094	..	..
	Baluchistan States .	80,410	420,291	..	..
	Kashmir . .	84,432	3,158,126	..	..
	TOTAL . 1916-17	394,138	32,015,118	25	180
	TOTAL . 1911-12	391,535	31,975,747	20	129
Patna	British—				
	Bihar and Orissa .	83,233	34,490,084	11	103
	Indian States—				
	Bihar and Orissa States.	28,648	3,945,209	..	..
	TOTAL .	111,881	38,435,293	11	103

SHERRAS, G. FINDLAY—*contd.*

Area and population of the territories assigned to the universities of India, together with the number of colleges and high schools in British territories—concld.

University.	Territorial limits.	Area in sq. miles.	Population.	Colleges.	High schools.
Mysore	Indian States— Mysore State	29,475	5,806,193	4	5
	TOTAL	29,475	5,806,193	4	5
Benares	Residential	..	..	..	..

TABLE 2.

Results of different examinations of Indian universities held in the nineteen years 1900 to 1918.

UNIVERSITY.		MASTER OF ARTS.						MASTER OF SCIENCE.						BACHELOR OF ARTS (HONOURS).					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Calcutta	1900	220	7	29	56	92	41·8	(a)	(a)	(a)	(a)	(a)	(a)	270	8	70	71	149	55·1
	1901	204	7	37	41	85	41·6							305	4	64	47	115	37·7
	1902	191	6	26	38	70	36·6							273	6	100	48	154	56·4
	1903	200	3	31	40	74	37·0							288	8	55	51	114	39·5
	1904	193	5	19	29	53	27·4							308	10	57	58	125	40·5
	1905	188	10	28	32	70	37·2							302	2	61	55	118	39·1
	1906	233	9	39	43	91	39·0							241	4	75	41	120	49·7
	1907	283	15	43	38	96	33·9							270	11	83	35	129	47·7
	1908	341	17	68	88	173	50·7							290	7	118	62	187	64·5
	1909	17	2	4	2	8	47·0							69	7	35	12	54	78·2
	1910	140	8	36	30	74	52·8	14	2	6	3	11	78·5	109	11	52	27	90	82·5
	1911	204	12	61	63	136	66·6	35	9	11	1	21	60·0	177	13	93	41	147	83·0
	1912	276	15	71	79	165	59·7	56	9	12	14	35	62·5	246	19	149	24	192	78·0
	1913	406	12	107	100	219	53·9	81	13	24	10	47	58·0	362	10	194	66	270	74·5
	1914	523	34	156	127	317	60·6	94	16	27	12	55	58·5	389	9	153	98	260	66·8
	1915	591	23	78	151	252	42·6	127	21	16	20	57	44·8	349	11	104	67	242	69·3
	1916	655	25	107	177	309	47·1	165	32	35	21	88	53·3	380	34	174	102	310	81·5

SHIRRAS, G. FINDLAY—*contd.*

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TABLE 2—*continued.*

Results of different examinations of Indian universities held in the nineteen years 1900 to 1918—continued.

UNIVERSITY.		MASTER OF ARTS.						MASTER OF SCIENCE.						BACHELOR OF ARTS (HONOURS).					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL			Class I.	Class II.	Class III.	TOTAL.	
Bombay—*contd.*	1905	45	1	10	18	29	64·4	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
	1906	59	1	11	26	38	64·4												
	1907	58	2	8	19	29	50·0												
	1908	69	6	13	19	38	55·0												
	1909	86	1	22	28	51	59·3												
	1910	72	..	15	30	45	62·5												
	1911	112	..	22	39	61	54·4												
	1912	78	3	22	25	50	61·5												
	1913	80	..	11	32	43	53·7												
	1914	114	1	17	42	60	52·6	1	..	..	..	..	..	154	9	48	59	116	75·3
	1915	110	1	17	30	48	43·6	1	..	..	..	..	..	52	..	7	20	27	51·9
	1916	173	2	22	54	78	44·4	4	1	..	2	3	75·0	224	15	124	44	183	81·2
	1917	106	..	13	46	59	55·6	2	2	..	..	2	100·0	341	16	158	89	263	77·1
	1918	47	1	4	16	21	44·7	2	1	..	1	2	100·0	393	11	164	129	304	77·3
	1900	31	2	10	11	23	74												
	1901	26	2	2	15	19	73												
	1902	31	1	3	11	15	48												

SHIRRAS, G. FINDLAY—*contd.*

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TABLE 2—*continued.*

Results of different examinations of Indian universities held in the nineteen years 1900 to 1918—continued.

UNIVERSITY.		MASTER OF ARTS.						MASTER OF SCIENCE.						BACHELOR OF ARTS (HONOURS).					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Punjab—*contd.*	1910	40	..	4	14	18	45·0	9	1	1	3	5	55·5	78	..	..	..	30	38·4
	1911	42	1	4	12	17	40·4	7	..	1	4	5	71·4	90	..	..	..	33	36·6
	1912	52	1	3	24	28	54·8	5	..	3	2	5	100	82	..	..	..	32	39·0
	1913	62	2	5	24	31	50·0	7	1	1	3	5	71·4	80	..	..	..	42	52·5
	1914	58	..	15	16	31	53·4	9	..	4	3	7	77·7	112	..	..	..	45	40·1
	1915	78	4	14	27	45	57·6	10	3	3	3	9	90	157	..	..	..	47	29·9
	1916	77	3	25	31	59	76·6	16	8	3	2	13	81·2	149	..	..	..	63	42·2
	1917	94	4	16	31	51	54·2	18	2	9	3	14	77·7	149	..	..	..	62	41·6
	1918	108	5	13	43	61	56·4	18	1	7	5	13	72·2	84	..	..	..	70	83·3
Patna . .	1918	10	..	4	2	6	60·0	..	..	..	..	..	..	17	1	6	2	9	52·9
Benares	1918 Previous	4	..	1	2	3	75·0	4	1	1	1	3	75·0	..	..	..	..	..	..
	1918 Final	1	..	1	..	1	100·0	2	1	..	1	2	100·0	..	..	..	..	..	..
Mysore. .	1918	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TOTAL	1900	329	10	51	95	156	47·4	..	..	..	..	..	..	270	8	70	71	149	55·2
	1901	306	10	46	81	137	44·8	..	..	..	..	..	..	305	4	64	47	115	37·7
	1902	329	10	39	86	135	41·0	..	..	..	..	..	..	273	6	100	48	154	56·4
	1903	352	8	43	87	138	39·2	..	..	..	..	..	..	288	8	55	51	114	39·6
	1904	354	7	35	81	123	34·7	..	..	..	..	..	..	308	10	57	58	125	40·6
	1905	318	11	43	81	135	42·5	..	..	..	..	..	..	302	2	61	55	118	39·1
	1906	406	11	58	102	171	42·1	..	..	..	..	..	..	241	4	75	41	120	49·7
	1907	465	19	63	94	176	37·8	..	..	..	..	..	..	270	11	83	35	129	47·7
	1908	531	25	97	141	263	49·5	9	1	1	4	6	66·6	290	7	118	62	187	64·5
	1909	224	4	38	66	108	48.2	10	2	2	3	7	70·0	124	7	35	12	78	62·9
	1910	275	8	58	87	153	55·6	28	5	10	6	21	75.0	187	11	52	27	120	64·2
	1911	447	16	101	147	264	59·1	46	9	15	6	30	65·2	267	13	93	41	180	67·4
	1912	512	21	107	168	296	57·8	71	11	19	18	48	67·6	328	19	149	24	224	68·3
	1913	709	23	151	211	385	54·3	105	19	29	20	68	64·8	442	10	194	66	312	70·6
	1914	955	40	220	281	541	56·6	115	20	32	19	71	61·7	737	20	244	188	497	67·4
	1915	928	31	123	274	428	46·1	161	26	22	31	79	49·1	675	19	211	139	416	61·6
	1916	1,138	31	177	331	539	47·4	210	42	45	31	118	56·2	858	61	334	187	645	75·2
	1917	1,225	36	202	391	629	51·3	196	38	49	32	119	60·7	1,079	62	434	229	787	72·9
	1918	1,122	58	177	374	609	54·3	237	44	60	29	133	56·1	1,077	57	375	284	786	73·0

NOTE.—(1) There are no classes in Bachelor of Arts (honours) examination in the Punjab.
(2) Candidates from Native States and Ceylon are excluded from these tables.

TABLE 2—*continued.*

Results of the different examinations of Indian universities held in the nineteen years 1900 to 1918—continued.

UNIVERSITY.		BACHELOR OF ARTS (PASS).						BACHELOR OF SCIENCE (HONOURS).						BACHELOR OF SCIENCE (PASS).					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Calcutta	1900	1,580	..	..	352	352	22·2	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
	1901	1,606	..	..	240	240	14·9												
	1902	1,806	..	..	320	320	17·7	8	..	1	..	1	12·5	4	..	..	1	1	25·0
	1903	1,626	..	..	283	283	17·2	8	..	1	4	5	62·5	11	..	..	3	3	27·2
	1904	1,813	..	..	184	184	10·1	1	..	..	..	..	..	13	..	..	5	5	38·4
	1905	1,797	..	..	369	369	20·5	6	1	1	1	3	50·0	9	..	..	..	..	..
	1906	1,706	..	..	358	358	20·9	9	..	5	2	7	77·7	9	..	..	5	5	55·5
	1907	1,572	..	..	294	294	18·7	9	1	3	2	6	66·6	8	..	..	3	3	37·5
	1908	2,609	..	..	909	909	34·8	21	2	12	6	20	95·2	17	..	..	8	8	47·0
	1909	426	..	25	174	199	46·7	47	3	15	6	24	51·1	64	..	6	15	21	32·8
	1910	783	..	20	316	336	42·9	65	3	13	19	35	53·8	121	..	16	24	40	33·0
	1911	845	..	51	423	474	56·1	76	9	32	19	60	78·9	158	..	18	61	79	50·0
	1912	998	..	29	521	550	55·1	95	5	26	31	62	65·2	189	..	27	79	106	56·1
	1913	1,564	..	86	845	931	59·5	118	13	44	33	90	76·2	288	..	56	120	176	61·1
	1914	2,189	..	47	972	1,019	46·5	129	9	50	33	92	71·3	296	..	31	108	139	46·9
	1915	2,620	..	105	1,063	1,168	44·5	141	17	43	36	96	68·1	352	..	33	112	145	41·1
	1916	2,896	..	155	1,232	1,387	47·8	131	28	54	24	106	80·9	397	..	140	120	260	65·4

Madras (*b*)	1917	3,338	..	160	1,367	1,527	45·7	131	24	45	23	92	70·2	356	..	103	109	212	59·5
	1918	3,066	..	130	1,232	1,362	44·4	125	19	39	28	86	68·8	359	..	101	115	216	60·1
	1900	..	..	..	..	375	..												
	1901	..	..	..	..	338	..												
	1902	..	..	..	..	449	..												
	1903	..	..	..	..	484	..												
	1904	..	..	..	..	510	..												
	1905	..	..	..	..	508	..												
	1906	..	..	..	..	407	..												
	1907	..	..	..	..	548	..												
	1908	..	..	..	..	505	..												
	1909	..	..	..	..	470	..	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)
	1910	..	..	..	..	650	..												
	1911	..	..	..	..	674	..												
	1912	..	..	..	..	862	..												
	1913	..	..	..	..	686	..												
	1914	..	..	..	..	653	..												
	1915	..	..	..	..	634	..												
	1916	..	..	..	..	727	..												
	1917	..	..	..	..	612	..												
	1918	..	..	..	..	767	..												
Bombay	1900	277	6	50	116	172	62·0							6	..	3	1	4	66·6
	1901	384	5	67	166	238	61·9							4	..	2	2	4	100·0
	1902	349	3	32	125	160	45·9							7	1	2	3	6	85·7

(*a*) No examination.

(*b*) The figures in the "total" column relate to the total number of candidates who qualified for the degree by passing separately one or more divisions or parts of the B. A. degree examination in each year. Figures relating to the number of candidates examined and passed in each division of part and the number of classes gained will be found in Table 3.

TABLE 2—*continued.*

Results of the different examinations of Indian universities held in the nineteen years 1900 to 1918—continued.

UNIVERSITY.		BACHELOR OF ARTS (PASS).						BACHELOR OF SCIENCE (HONOURS).						BACHELOR OF SCIENCE (PASS).					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Bombay—*contd.*	1903	413	7	85	220	312	77·9	(a)	(a)	(a)	(a)	(a)	(a)	3	..	..	2	2	66·6
	1904	353	3	65	169	237	67·1							7	..	5	1	6	85·7
	1905	323	4	55	175	234	72·1							6	..	2	3	5	83·0
	1906	388	2	88	182	272	70·1							9	1	..	7	8	88·8
	1907	398	5	56	182	243	61·0							12	..	8	..	8	66·6
	1908	433	11	96	183	290	66·9							15	..	..	13	13	86·6
	1909	427	6	82	206	294	68·8							16	..	6	7	13	81·2
	1910	432	1	71	169	241	55·7							20	..	6	9	15	51·7
	1911	525	7	115	271	393	74·8							22	..	9	9	18	81·8
	1912	526	5	87	250	342	65·0							30	..	7	12	19	63·3
	1913	632	6	82	292	380	60·1							32	1	3	18	22	68·7
	1914	513	1	1	260	262	51·0							29	2	5	14	21	72·4
	1915	256	..	..	90	90	35·2							21	..	3	7	10	47·6
	1916	515	..	..	270	270	52·4							53	2	11	21	34	64·1
	1917	660	..	..	314	314	47·6							70	7	15	13	35	50·0
	1918	732	..	..	353	353	48·2							69	6	23	20	49	71·0
	1900	233	4	82	35	121	52							9	2	3	1	6	67
	1901	283	5	123	34	162	60							5	..	2	1	3	66

SHIRRAS, G. FINDLAY—*contd.*

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TABLE 2—*continued.*

Results of different examinations of Indian universities held in the nineteen years 1900 to 1918— continued.

UNIVERSITY.		BACHELOR OF ARTS (PASS).						BACHELOR OF SCIENCE (HONOURS).						BACHELOR OF SCIENCE (PASS).					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Punjab—*contd.*	1909	353	9	82	57	148	41·9	4	..	..	..	3	75	15	..	3	..	3	20
	1910	388	10	78	63	151	38·9	5	..	..	..	3	60	18	..	5	1	6	33·3
	1911	473	12	66	71	149	31·5	18	..	..	..	10	55·5	24	1	13	3	17	70·8
	1912	467	5	80	77	171	36·6	11	..	..	..	5	45·4	25	2	8	2	12	48
	1913	462	8	109	86	203	43·9	25	..	..	..	14	56	61	..	23	10	33	54·1
	1914	574	6	141	108	255	44·6	12	..	..	..	7	58·3	43	3	12	2	17	39·5
	1915	785	7	160	154	321	40·8	23	..	..	..	10	43·4	46	..	22	3	25	54·3
	1916	951	18	181	190	389	40·9	25	..	..	..	15	60	57		31	10	42	73·6
	1917	1,119	14	281	223	518	46·2	24	..	..	..	10	41·6	45	1	15	5	21	46·6
	1918	1,184	12	397	257	666	56·2	18	..	..	..	14	77·7	68	..	31	9	40	58·8
Patna . .	1918	445	..	..	186	186	41·8	10	1	5	2	8	80	24	..	..	14	14	58·3
Benares .	1918	89	1	4	25	30	34	..	..	..	..	..	..	18	..	3	3	6	33
Mysore .	1918	76	1	39	..	40	52·6	..	..	..	..	..	..	..	..	..	..	..	..

	1900	2,468	11	211	536	758	30·7	..	..	..	..	..	..	15	2	6	2	10	66·7
	1901	2,638	16	272	477	765	29·0	..	..	..	..	..	..	9	..	4	3	7	77·8
	1902	2,706	11	243	517	771	28·5	8	..	1	..	1	12·5	18	2	6	4	12	66·7
	1903	2,556	19	193	636	848	33·2	8	..	1	4	5	62·5	20	1	4	10	15	51·7
	1904	2,727	15	220	486	721	26·4	1	..	..	..	..	..	43	2	12	13	27	62·8
	1905	2,710	13	236	676	925	34·1	6	1	1	1	3	50·0	43	1	13	6	20	46·5
	1906	2,819	18	233	761	1,012	35·9	9	..	5	2	7	77·7	50	3	7	19	20	58·0
	1907	2,677	7	168	606	781	29·2	9	1	3	2	6	66·6	76	1	18	11	30	39·5
	1908	3,772	18	222	1,279	1,519	40·3	21	2	12	6	20	95·2	131	5	15	38	58	44·3
TOTAL (*b*)	1909	1,677	17	261	560	838	50·0	51	3	15	6	27	52·1	219	1	30	42	73	33·3
	1910	2,206	11	220	711	942	42·7	70	3	13	10	38	54·3	312	2	46	66	114	36·5
	1911	2,534	23	350	976	1,349	53·2	94	9	32	19	70	74·5	354	2	74	127	203	57·3
	1912	2,795	14	320	1,061	1,395	49·9	106	5	26	31	67	63·2	367	2	56	130	188	51·2
	1913	3,464	16	351	1,455	1,822	52·6	143	13	44	33	104	72·7	534	9	115	174	298	55·8
	1914	4,122	8	270	1,632	1,910	46·3	141	9	50	33	99	70·2	520	11	81	152	244	46·9
	1915	4,585	8	351	1,534	1,893	41·3	164	17	43	36	106	64·6	564	4	78	172	254	45·0
	1916	5,462	19	424	2,069	2,512	46·0	156	23	54	24	121	77·6	667	8	227	186	421	63·1
	1917	6,282	18	538	2,300	2,856	45·5	155	24	45	23	102	65·8	647	10	162	166	338	52·2
	1918	6,754	16	645	2,351	3,012	44·6	153	20	44	30	108	70·6	728	9	193	194	396	54·3

NOTE.—(1) There are no classes in Bachelor of Science (honours) examination in the Punjab.
(2) Candidates from Native States and Ceylon are excluded from these tables.
(*a*) No examination.
(*b*) Totals for B. A. (pass) exclude Madras for all the columns.

TABLE 2—*continued.*

Results of the different examinations of Indian universities held in the nineteen years 1900 to 1918—continued.

UNIVERSITY.		INTERMEDIATE EXAMINATION IN ARTS.						INTERMEDIATE EXAMINATION IN SCIENCE.						MATRICULATION.					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Calcutta	1900	3,382	48	233	950	1,231	36·3	(a)	(a)	(a)	(a)	(a)	(a)	5,988	936	1,538	1,137	3,611	60·3
	1901	3,612	45	189	896	1,130	31·2							5,827	914	1,291	966	3,171	54·4
	1902	4,001	127	363	983	1,473	36·8							6,713	592	1,234	1,473	3,299	49·1
	1903	3,883	97	361	780	1,238	31·8							6,780	581	1,183	1,331	3,095	45·6
	1904	3,832	64	342	890	1,296	33·8							7,118	407	912	1,376	2,695	37·8
	1905	3,521	79	364	676	1,119	31·7							6,972	387	1,018	1,502	2,907	41·6
	1906	2,885	83	294	658	1,035	35·8							6,952	163	555	1,115	1,833	26·3
	1907	2,733	132	444	492	1,068	39·1							5,804	532	1,758	1,050	3,340	57·5
	1908	3,583	98	676	709	1,483	41·4							6,416	480	1,792	1,678	3,950	61·5
	1909	1,336	128	268	54	450	33·6	323	79	54	6	139	43·0	12,395	1,932	4,428	1,402	7,762	62·6
	1910	2,194	231	572	78	881	40·1	672	120	182	17	319	47·4	3,545	1,870	813	110	2,793	78·7
	1911	3,334	478	994	195	1,667	50·0	1,005	207	298	50	555	55·2	6,074	2,464	1,590	211	4,265	70·2
	1912	4,048	464	1,190	309	1,963	48·4	1,097	201	299	43	543	49·4	8,761	2,862	2,361	394	5,617	64·1
	1913	4,360	480	1,151	476	2,107	48·3	1,057	336	326	52	714	67·5	9,370	4,436	2,196	230	6,862	73·2
	1914	5,151	521	1,201	438	2,160	41·9	953	341	214	29	584	61·2	11,289	2,949	3,149	657	6,755	59·8
	1915	5,798	923	1,598	370	2,891	49·8	1,026	473	124	6	603	58·7	12,457	3,653	3,279	554	7,486	60·1
	1916	5,891	721	1,466	498	2,685	45·5	1,298	403	247	33	683	52·6	14,058	4,326	3,342	494	8,162	58·0

SHIRRAS, G. FINDLAY—*contd.*

1917	6,467	994	1,569	325	2,888	44·6	1,553	525	200	20	835	53·7	15,876	5,700	4,699	642	11,131	70·1					
1918	5,500	829	1,613	531	2,973	54·0	1,485	522	361	34	917	61·7	14,490	4,995	3,155	400	8,560	59·0					
1900	2,089	53	815	..	868	41·6							7,313	27	1,396	..	1,423	19·6					
1901	1,892	58	672	..	730	38·6							7,638	71	2,356	..	2,427	31·7					
1902	1,878	47	657	..	704	37·5							7,913	19	2,490	..	2,509	31·7					
1903	2,333	59	1,008	..	1,067	45·7							8,114	15	1,506	..	1,521	18·7					
1904	2,430	62	918	..	980	40·3							8,804	15	2,470	..	2,485	28·2					
1905	2,238	29	651	..	680	30·4							8,998	9	2,154	..	2,163	24·0					
1906	2,448	24	747	..	771	31·5							8,852	24	3,054	..	3,078	34·8					
1907	2,479	75	1,012	..	1,087	43·8							8,788	6	1,522	..	1,528	17·4					
1908	2,687	56	1,013	..	1,069	39·8							10,767	30	2,501	..	2,534	23·6					
1909	2,610	57	793	..	850	32·6	(a)	(a)	(a)	(a)	(a)	(a)	7,381	10	220	1,137	1,373	18·6					
1910	(a)	(a)	(a)	(a)	(a)	(a)							..	..	..	..	..	..					
1911	1,427	161	431	..	592	41·4							782	8	55	101	164	21·0					
1912	1,575	133	553	..	686	43·5							580	2	32	103	137	23·5					
1913	2,427	205	607	..	812	33·4							149	5	16	25	46	30·8					
1914	2,969	275	884	..	1,159	39·0							82	..	6	20	26	31·7					
1915	3,749	164	866	..	1,030	27·5							28	..	7	10	17	60·7					
1916	4,717	154	1,087	..	1,141	26·3							52	2	6	9	17	32·7					
1917	5,424	108	1,327	..	1,435	26·5							80	..	7	14	21	26·3					
1918	5,803	111	1,535	..	1,646	28·4							16	..	3	3	6	37·5					
1900	409	2	56	190	248	61·1	14	..	2	6	8	57·1	2,098	..	..	..	950	31·0					
1901	444	3	63	196	262	59·2	10	..	..	3	3	30·0	3,166	..	..	..	960	30·3					
1902	431	1	62	197	260	60·3	9	..	..	3	3	33·3	3,225	..	..	..	1,084	33·6					
1903	344	2	50	150	211	61·2	15	..	..	0	0	00·0	3,116	..	..	..	1,110	35·6					

Bombay

Madras

NOTE.—(1) There are no classes at the matriculation examination in Bombay and Mysore.
(2) There are no classes at the first year certificate examination (Intermediate examination in Arts) in Mysore.
(4) No examination.

TABLE 2—*continued.*

Results of the different examinations of Indian universities held in the nineteen years 1900 to 1918—continued.

UNIVERSITY.		INTERMEDIATE EXAMINATION IN ARTS.						INTERMEDIATE EXAMINATION IN SCIENCE						MATRICULATION.					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Bombay—*contd.*	1904	450	1	75	284	310	68·8	7	..	2	5	7	100·0	3,297	..	..	..	1,198	36·3
	1905	531	2	65	262	329	61·9	15	..	2	4	6	40·0	3,684	..	..	..	1,279	34·7
	1906	543	2	65	270	337	62·0	33	..	1	13	14	42·4	3,459	..	..	..	1,533	44·3
	1907	548	13	83	231	327	59·6	27	..	1	15	16	59·2	1,948	..	..	..	871	44·7
	1908	540	3	75	255	333	61·6	28	..	..	11	11	39·2	2,364	..	..	..	922	39·0
	1909	604	2	64	302	368	60·9	39	..	1	31	32	82·0	2,649	..	..	..	1,277	48·2
	1910	600	3	69	364	436	72·6	29	..	1	13	14	48·2	2,969	..	..	..	1,236	41·6
	1911	673	9	120	356	485	72·0	40	..	..	27	27	67·5	3,261	..	..	..	1,605	49·2
	1912	666	10	108	322	440	67·5	53	..	8	23	31	58·4	3,408	..	..	..	1,164	34·1
	1913	807	8	127	414	549	68·0	93	5	10	38	53	56·9	3,849	..	..	..	2,203	57·2
	1914	883	4	116	504	624	70·6	106	2	25	34	61	57·5	4,079	..	..	..	1,236	30·3
	1915	356	1	5	151	157	41·2	50	4	10	8	22	44·0	3,316	..	..	..	757	22·8
	1916	1,178	4	144	591	739	62·7	110	6	19	26	51	46·3	3,535	..	..	..	1,720	48·6
	1917	1,124	15	148	570	733	65·2	157	8	31	34	73	46·5	3,941	..	..	..	1,370	34·7
	1918	1,185	7	140	488	635	53·6	176	1	33	45	79	44·9	4,094	..	..	..	2,206	53·9
	1900	316	1	18	71	90	28							1,748	112	312	212	636	36
	1901	568	4	46	159	209	37							1,967	83	342	332	757	33

SHIRRAS, G. FINDLAY—*contd.*

Allahabad	1902	575	6	94	199	209	52	(a)	(a)	(a)	(a)	(a)	(a)	1,77	116	469	292	877	49
	1903	589	8	116	109	233	39							1,688	107	385	355	847	50
	1904	622	14	139	236	389	63							1,755	128	443	361	932	53
	1905	649	7	80	203	290	47							2,263	261	699	439	1,399	62
	1906	680	10	101	204	315	46							2,229	139	374	381	894	40
	1907	974	4	95	284	383	40							3,181	448	1,062	495	2,005	63
	1908	1,123	12	193	334	539	48							2,515	32	474	572	1,078	43
	1909	1,345	16	160	321	497	37							2,825	18	302	577	897	32
	1910	1,394	16	166	405	587	42							3,147	12	336	510	858	28
	1911	1,260	13	195	419	627	50							2,981	24	550	650	1,224	42
	1912	1,275	10	157	381	548	43							2,890	16	423	573	1,012	36
	1913	1,550	22	217	440	679	44							3,123	20	393	741	1,154	37
	1914	1,672	23	208	506	737	45							3,163	21	488	842	1,351	42
	1915	1,904	5	198	656	859	45							3,604	11	414	852	1,277	36
	1916	1,935	22	231	615	868	40							3,960	6	282	755	1,043	27
	1917	2,256	24	309	611	944	42							4,363	10	425	728	1,163	27
	1918	2,062	19	317	663	999	49							4,107	3	245	601	849	22
Punjab	1900	605	22	123	131	276	45·6	15	..	4	..	4	26·6	2,540	235	632	367	1,234	48·5
	1901	535	23	115	94	232	43·3	19	1	8	..	9	47·3	2,553	256	772	305	1,333	52·2
	1902	570	25	162	134	321	56·3	10	2	4	..	6	60	2,700	159	668	342	1,169	43·2
	1903	547	27	113	105	245	46·7	10	1	2	1	4	40	2,884	241	825	383	1,449	50·2
	1904	536	29	106	98	233	43·4	28	..	9	5	14	50	2,860	227	767	326	1,320	46·8
	1905	591	16	115	122	253	42·8	24	2	9	1	12	50	3,055	190	777	372	1,339	43·8
	1906	611	18	160	117	295	48·2	31	2	11	1	14	45·1	3,206	169	738	432	1,339	41·7
	1907	633	21	152	121	294	46·4	37	1	12	1	14	37·8	3,324	227	893	470	1,590	47·2
	1908	638	40	189	48	277	48·4	40	3	15	..	18	45	3,167	206	779	373	1,358	42·8

(a) No examination.

TABLE 2—*concluded.*

Results of the different examinations of Indian universities held in the nineteen years 1900 to 1918—concluded.

UNIVERSITY.		INTERMEDIATE EXAMINATION IN ARTS.						INTERMEDIATE EXAMINATION IN SCIENCE.						MATRICULATION.					
		Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.	Number of candidates.	NUMBER OF PASSES.				Percentage of total passes.
			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.			Class I.	Class II.	Class III.	TOTAL.	
Punjab—*contd.*	1909	632	46	241	101	388	61·3	117	5	26	22	53	45·2	3,055	159	788	305	1,342	43·9
	1910	565	18	145	55	218	38·5	157	3	41	23	67	42·6	3,509	201	1,087	360	1,657	47·2
	1911	708	23	168	89	280	39·5	191	7	66	8	81	42·4	3,698	248	1,205	360	1,813	49·0
	1912	792	38	255	135	428	54·0	200	33	80	10	123	61·5	3,975	305	1,381	439	2,125	53·4
	1913	903	33	328	138	499	55·2	230	26	116	12	154	66·9	4,034	199	1,209	659	2,067	51·2
	1914	947	46	348	122	516	54·4	295	21	134	9	164	55·6	4,620	340	1,564	673	2,577	55·7
	1915	1,076	42	397	148	587	54·5	356	30	146	13	189	53·1	4,748	317	1,675	715	2,707	57·0
	1916	1,115	47	403	160	610	54·7	400	26	169	8	203	50·7	5,569	275	1,959	829	3,063	55·0
	1917	1,045	56	339	171	566	54·1	485	34	191	21	246	50·7	5, 84	456	2,567	886	3,909	66·4
	1918	1,127	55	438	235	728	64·5	583	19	156	76	251	43·0	6,020	400	2,211	934	3,545	58·8
Patna	1918	830	107	224	90	421	50·7	156	49	43	17	109	69·9	3,629	640	637	389	1,666	45·9
Benares	1918	91	..	24	39	63	69	55	3	13	17	33	60	45	..	7	2	9	20
Mysore	1917	..	..	..	..	..	..	..	..	..	..	..	..	244	..	..	..	120	49·1
	1918	30	..	..	..	11	36·6	..	..	..	..	..	..	403	..	..	..	138	34·2

TOTAL	1900	6,801	126	1,245	1,342	2,713	39·9	29	..	6	6	12	41·4	20,587	1,310	3,878	1,716	7,803	38·2
	1901	7,051	133	1,085	1,345	2,563	36·3	29	1	8	3	12	41·4	21,171	1,324	4,761	1,603	8,648	40·8
	1902	7,455	206	1,338	1,513	3,057	41·0	19	2	4	3	9	47·4	22,323	886	4,861	2,107	8,938	40·0
	1903	7,696	193	1,657	1,144	2,994	38·9	25	1	2	10	13	52·0	22,582	944	3,899	2,069	8,022	35·5
	1904	7,870	170	1,580	1,458	3,208	40·8	35	..	11	10	21	60·0	23,834	777	4,592	2,063	8,630	36·2
	1905	7,528	133	1,275	1,263	2,671	35·5	39	2	11	5	18	46·2	24,972	847	4,648	2,313	9,087	36·4
	1906	7,167	137	1,367	1,249	2,753	38·4	64	2	12	14	28	43·7	24,698	495	4,721	1,928	8,677	35·1
	1907	7,367	245	1,786	1,128	3,159	42·9	64	1	13	16	30	46·9	23,045	1,213	5,235	2,015	9,334	40·5
	1908	8,571	209	2,146	1,346	3,701	43·2	68	3	15	11	29	42·6	25,229	748	5,549	2,623	9,842	39·0
	1909	6,527	249	1,526	778	2,553	39·1	479	84	81	59	224	46·8	28,305	2,125	5,738	3,511	12,051	44·7
	1910	4,753	268	952	902	2,122	44·6	858	123	224	53	400	46·6	13,170	2,083	2,236	989	6,544	49·7
	1911	7,402	684	1,908	1,059	3,651	49·3	1,236	214	364	85	663	53·6	16,796	2,744	3,400	1,325	9,071	54·0
	1912	8,356	655	2,263	1,147	4,065	48·6	1,350	234	387	76	697	51·6	19,614	3,185	4,197	1,509	10,055	51·3
	1913	10,047	748	2,430	1,468	4,646	46·2	1,380	367	452	102	921	66·7	20,525	4,660	3,814	1,655	12,332	60·1
	1914	11,622	869	2,757	1,570	5,196	44·7	1,354	304	373	72	809	59·7	23,233	3,310	5,207	2,192	11,945	51·4
	1915	12,883	1,135	3,064	1,325	5,524	42·9	1,432	507	280	27	814	56·8	24,153	3,981	5,375	2,131	12,244	50·7
	1916	14,836	948	3,331	1,864	6,043	40·7	1,808	435	435	67	937	51·8	27,174	4,609	5,589	2,087	14,005	51·5
	1917	16,316	1,197	3,692	1,677	6,566	40·2	2,195	567	512	75	1,154	52·6	30,388	6,256	7,698	2,270	17,714	58·3
	1918	16,628	1,128	4,291	2,046	7,476	45·0	2,455	594	606	189	1,389	56·6	32,804	6,038	6,258	2,329	16,960	51·7

NOTE.—Candidates from Native States and Ceylon are excluded from these tables.

SHIRRAS, G. FINDLAY—*contd.*

TABLE 3.

Results of the B. A. examination of the Madras University held in the nineteen years 1900 to 1918.

Nature of examination.	Year.	Division or Part.	Number examined.	Number of Passes.			Total passed.	Percentage passed.
				Class I.	Class II.	Class III.		
Bachelor of Arts (old).	1900	English Language	856	2	80	272	354	41·4
		Second Language	669	28	244	267	539	30·6
		Science Division	765	25	153	216	394	51·5
	1901	English Language	917	2	103	383	488	53·2
		Second Language	626	20	283	213	516	82·4
		Science Division	819	22	202	225	449	54·8
	1902	English Language	980	2	182	413	597	60·9
		Second Language	749	24	310	277	620	82·8
		Science Division	915	16	102	262	470	51·4
	1903	English Language	926	10	198	372	580	62·6
		Second Language	720	19	236	324	579	80·4
		Science Division	972	28	267	240	535	55·0
	1904	English Language	880	5	133	372	510	58·0
		Second Language	700	21	251	281	553	79·0
		Science Division	955	14	224	285	523	54·8
	1905	English Language	1,069	2	78	332	412	38·5
		Second Language	946	14	244	457	715	75·6
		Science Division	1,130	18	186	360	564	49·9
	1906	English Language	1,332	2	165	474	641	48·1
		Second Language	980	17	308	469	794	81·0
		Science Division	1,189	20	216	343	579	48·7
	1907	English Language	1,109	11	107	370	488	44·0
		Second Language	698	16	264	308	588	84·2
		Science Division	1,061	24	214	312	550	51·7
	1908	English Language	1,145	1	98	334	433	37·8
		Second Language	692	11	211	333	555	80·2
		Science Division	1,006	34	229	302	565	56·2
	1909	English Language	1,465	8	193	554	755	51·5
		Second Language	972	22	377	420	819	84·3
		Science Division	1,189	29	235	385	649	54·6

SHIRRAS, G. FINDLAY—*contd.*

TABLE 3—*continued.*

Results of the B. A. examination of the Madras University held in the nineteeen years 1900 to 1918—continued.

Nature of examination.	Year.	Division or Part.	Number examined.	Number of passes.			Total passed.	Percentage passed.
				Class I.	Class II.	Class III.		
Bachelor of Arts (old)—*contd.*	1911	English Language	1,423	4	113	509	626	44·0
		Second Language	1,005	19	409	453	881	87·7
		Science Division	1,301	31	344	435	810	62·3
	1912	English Language	1,640	15	232	678	925	56·4
		Second Language	945	23	366	389	778	82·3
		Science Division	1,287	33	375	382	790	61·4
B. A. (new regulations).	1913	Part I	410	11	268	..	279	68·0
		Part II	396	16	259	..	275	69·5
B. A (old)	1913	English Language	877	..	38	286	324	36·9
		Second Language	259	10	127	93	230	88·8
		Science Division	629	5	94	210	309	49·1
B. A. (new regulations).	1914	Part I	592	10	362	..	372	62·8
		Part II	583	8	281	..	289	49·5
B. A. (old)	1914	English Language	629	..	35	273	308	48·8
		Second Language	59	..	22	23	45	76·3
		Science Division	625	2	43	185	230	36·8
B. A. (new regulations).	1915	Part I	796	4	473	..	477	59·9
		Part II	869	7	632	..	639	73·5
B. A. (old)	1915	English Language	306	..	1	45	46	15·0
		Second Language	67	1	33	28	62	92·5
		Science Division	257	..	20	70	90	35·0
B. A. (new regulations).	1916	Part I	1,180	3	545	..	548	46·4
		Part II	1,064	19	657	..	676	63·5
B. A. (old)	1916	English Language	257	..	18	132	150	58·4
		Second Language	17	..	7	6	13	76·5
		Science Division	274	..	24	96	120	43·8
	1917	Part I	1 104	..	449	..	449	38·6
		Part II	1,047	17	734	..	751	71·6
	1918	Part I	1,554	8	865	..	873	56·2
		Part II	1 134	3	506	..	509	44·9

NOTE.—(1) The B. A. degree examination under the new regulations was held for the first time in 1913.
(2) The B.A. degree examination under the old by-laws was held for the last time in 1916.
(3) No examination in 1916.

SHIRRAS, G. FINDLAY—*contd.*

TABLE 4.

Number of under-graduates of Indian universities in the twelve years 1907 to 1918.

University.		Arts.	Medicine.	Engineering.	Oriental languages and literature.	Other faculties.	TOTAL.
Calcutta	1907	6,250	523	94	..	412	7,279
	1908	6,060	510	100	..	499	7,169
	1909	8,570	567	109	..	984	10,230
	1910	10,428	606	92	..	995	12,121
	1911	12,379	632	88	..	919	14,018
	1912	14,973	708	93	..	1,525	17,299
	1913	17,273	769	97	..	2,025	20,164
	1914	19,315	847	104	..	2,265	22,531
	1915	20,406	932	94	..	2,703	24,135
	1916	21,822	984	78	..	2,903	25,787
	1917	23,916	1,100	83	..	3,158	28,257
	1918	22,425	1,334	85	..	2,915	26,759
Madras	1907	5,314	175	..	..	..	5,489
	1908	5,053	205	..	..	..	5,258
	1909	5,515	226	..	..	..	5,741
	1910	4,743	253	..	..	..	4,996
	1911	5,609	244	..	..	..	5,853
	1912	6,694	254	12	..	..	6,960
	1913	7,920	258	23	..	..	8,201
	1914	9,248	234	26	..	..	9,508
	1915	10,008	272	25	..	..	10,305
	1916	9,625	259	30	..	..	9,914
	1917	8,145	261	116	..	..	8,522
	1918	8,108	289	98	..	..	8,495
Bombay	1907	2,466	679	143	..	87	3,375
	1908	2,352	560	155	..	72	3,139
	1909	2,425	526	143	..	104	3,198
	1910	2,723	558	148	..	104	3,533
	1911	2,959	564	102	..	88	3,713
	1912	3,305	531	148	..	102	4,086
	1913	3,499	538	166	..	104	4,307
	1914	4,057	623	166	..	283	5,129
	1915	3,475	648	107	..	151	4,471
	1916	4,702	644	189	..	105	5,840

SHIRRAS, G. FINDLAY—*contd.*

TABLE 4—*continued.*

Number of under-graduates of Indian universities in the twelve years 1907 to 1918—continued.

University.		Arts.	Medicine.	Engineering.	Oriental languages and literature.	Other faculties.	TOTAL.
Bombay—*contd*	1917	4,426	885	146	..	642	6,099
	1918	4,983	1,063	148	..	431	6,625
Allahabad	1907	2,812	..	..	..	..	2,812
	1908	3,216	..	..	..	..	3,216
	1909	3,397	..	..	..	..	3,397
	1910	3,373	..	..	..	..	3,373
	1911	3,597	29	..	..	..	3,626
	1912	4,006	57	..	..	5	4,068
	1913	4,393	84	..	..	7	4,484
	1914	4,937	108	..	..	19	5,064
	1915	5,573	134	..	..	37	5,744
	1916	5,661	137	..	..	37	5,835
	1917	6,133	140	..	..	73	6,346
	1918	5,420	135	..	..	67	5,622
Punjab	1907	703	27	144	311	..	1,185
	1908	758	32	208	192	..	1,190
	1909	721	24	131	231	..	1,107
	1910	771	43	110	231	..	1,155
	1911	944	37	78	286	..	1,345
	1912	1,078	34	22	321	..	1,455
	1913	1,158	45	26	419	..	1,648
	1914	1,235	49	..	475	..	1,759
	1915	1,269	47	..	551	..	1,867
	1916	1,548	76	..	625	..	2,249
	1917	1,920	288	..	56	..	2,264
	1918	4,524	96	96	331	208	5,159
Patna	1918	3,170	..	..	..	20	3,190
Benares	1918	622	..	..	67	5	694
Mysore	1917	81	..	..	..	..	81
	1918	476	..	45	..	..	521

SHIRRAS, G. FINDLAY—*contd.*

TABLE 4—*concluded.*

Number of under graduates of Indian universities in the twelve years 1907 to 1918—concluded.

University.		Arts.	Medicine.	Engineering.	Oriental languages and literature.	Other faculties.	TOTAL.
TOTAL	1907	17,545	1,404	381	311	499	20,140
	1908	17,430	1,307	463	102	571	19,072
	1909	20,028	1,342	383	231	1,088	23,073
	1910	22,038	1,460	350	231	1,099	25,178
	1911	25,488	1,506	268	286	1,007	28,555
	1912	30,056	1,584	275	321	1,632	33,868
	1913	34,243	1,694	312	419	2,136	38,804
	1914	38,702	1,861	296	475	2,567	43,901
	1915	40,731	2,083	316	551	2,801	46,522
	1916	43,358	2,100	297	625	3,245	49,625
	1917	44,621	2,074	345	56	3,873	51,569
	1918	49,728	2,017	376	398	3,646	56,025

NOTE.—(1) The term "under-graduate" denotes one who has been admitted to a college, whose name is still on the rolls of a college, and who has not yet taken the degree. It does not include those who having passed one degree proceed to another.

(2) Candidates from Native States and Ceylon are excluded from these tables.

SARKAR, BEJOY KUMAR.

I should like to make the following further suggestions in connection with university education :—

(*a*) There ought to be compartmental examinations ; and a student who fails in one subject ought to be examined again only in that subject and not in all the subjects.

(*b*) The University should take more practical steps to encourage the vernaculars with a view to making the teaching and examination through the vernaculars compulsory in all the subjects up to the highest standard in the immediate future. With this purpose, encouragement should be given for the translation of the standard works in the foreign languages into Bengali, and also the preparation of suitable text-books into Bengali.

True and sound education cannot spread except through the medium of one's own mother tongue ; and all necessary steps should be taken to realise this end.

SINHA, Kumar MANINDRA CHANDRA.

A great deal has been written on the system of education in India ; and a great deal has still to be written. The system is undergoing a transformation ; but the last word has not been said, nor has the finishing stroke been given. Alike with some of the other activities in India, the whole system suffers from immaturity. There has been no perfection gained, nor has a finality been arrived at. No one will deny that there has been progress, and in many instances, definite progress ; but that the last stage has been reached and that the coping-stone has been placed none will admit. Being immature, the system has been subjected to experiment and even to venture, and where these factors come in one may rightly expect failures, and in some instances, crude and avoidable failures.

One of the experiments made on the system of education in India has been the attempt to graft on the young trunk the mature and sturdy branches of education as found in some of the best universities of England, like those of Oxford and Cambridge. The English universities have not been the work of a day ; the people of England have not arrived at the present state of civilisation and refinement in a decade or two. Reforms have come about by the process of centuries of labour and by the patient foresight of individuals who have gone the way of all mortals long before their ideals were realised or their schemes bore fruit. Education in England may well then be styled a growth, a development, that has both influenced those for whom it has been engendered and in like manner has been influenced by those for whom it was established. Not so with Indian education. For ages, long before the British advent in India, education in India was mainly devoted to the memorising of the classics of the land ; and those who indulged in these luxuries were the privileged few ; the masses remained ignorant. Then came the pioneers of English education in India. Macaulay—that astute but wilfully prejudiced politician—arranged his series of educational reforms. The universities were formed and a system of English training was mapped out for the people of India, wholly unsuited to their needs and devoid of their interests. Whatever else he may be, the Indian is a born imitator ; he learned lesson after lesson of this high training system, English essentially in its ideals, and the inevitable result was that he grew to be an imitation—an unworthy imitation at the best—of English ideals and manners. Then once more the " powers that be " felt that the training was unsuited to Indian ideals and to Indian needs ; and once more under the able and determined leadership of Lord Curzon came the reforms in university education. Obsolete implements of culture were cast aside, much of the chaff of useless examinations was eliminated, and generally new methods were employed. The system was broadened up to a certain standard and has been attenuated above a certain standard. Here again, however, it will be recognised that though much has been done much still

SINHA, Kumar MANINDRA CHANDRA—*contd.*

remains to be done. To instance these statements some sort of investigation of the details must be undergone. There was no doubt that with the old system, beginning with an entrance examination, a great and growing opportunity was given for "cramming." Text-books were appointed for the study of English, of history, of geography, and other kindred subjects. The subtle Indian soon realised that all that was necessary was a careful memorising of the important portions of text-books, and in some cases, of the whole text-book; and students passed in schools who were nothing better than repeating automatons. To battle this evil the present matriculation examination was introduced. No text-books are set, a syllabus is framed for each subject, and a wide list of books is merely recommended. But has this finally solved the difficulty of training the growing minds of the young men of India? Books not being appointed for study, a general standard being only fixed, teaching in the matriculation class has deteriorated. In England the tutorial system obviates this difficulty. In India the young man being given a general standard, with little to study, neglects to study altogether. In most of the colleges, if not all, the professors are constantly grumbling that students are not fit to be received for the arts and science courses, although they have passed the matriculation examination. The result is that teaching in the first arts and science classes is becoming increasingly difficult and disappointing to professors. Pupils leave in the middle of the terms discouraged and, if they pursue the entire course and hazard the examination, they retire in most cases failures. A further investigation will go to show that the higher classes in the universities are suffering from the same defects and that in many cases graduates are unqualified for the degrees that they receive.

These reforms, therefore, much as they have been inaugurated with the highest ideals in view, for the welfare of the Indian, have failed because, as mentioned before, there has been the constant attempt to graft the mature system of English training on the immature Indian stock. Schemes have been formulated by those in touch with the youth of India, who have none the less failed to grasp the underlying principles on which the Indian character is based. The Indian possesses essentially a philosophic mind, highly subtle and filled with intellectual energy, but the physical counterpart is lacking and the inclination to act is wanting. A cursory study of the religions of the East, and their philosophies, will justify this statement. The mind of the Englishman, on the contrary, is materialistic. To him the idealistic, the philosophic, are mere conceptions, so long as they do not alter and improve the things around him to his advantage and comfort. To the Indian the situation is reversed. The world and its environments remain as they were, unlooked after and unsough; intellectutality is the one thing developed. It is true that among Englishmen there have arisen from time to time world-renowned philosophers and savants, just as there have arisen among Indians acute men of worldly wisdom and experience, but these exceptions go largely to prove the rule. The effort of university education in England has, therefore, been to draw men away from their materialistic tendencies and to lead them to philosophic and literary pursuits. The mistake was created when a like effort was made to train the Indian mind. Such a mind already highly philosophic and literary has no need of literary inducements and philosophic blandishments to allure it. To do so is to employ the adage found in common use, "as carrying coals to Newcastle". What is wanted is a system of education that will draw the Indian away from such idealistic pursuits and will make him look a little more at the world around him. India is in daily need of more men to plough her fields more scientifically, to dig her mines more methodically, and to sell and barter her thousand and one rich products on more economic lines. How is this end to be attained? The main outlines of the answer may already be conjectured. Briefly, it is to give Indian education a practical bent. There is less need of arts colleges and seminars: there is more need of schools and institutions teaching the practical sciences. The young men of India have little need of university courses. They have a greater need of practical training; instead of the matriculation examination some form of a school terminal examination may be introduced, in which subjects of practical use to the young students should be more and more introduced. By this device the bulk of the young men of India will be induced to give up their futile attempts to pursue higher education, and they will enter business at an age which will give them every chance of future success through the medium of experience. Those who desire to advance further in the arts and sciences may appear for the matriculation

SINHA, Kumar MANINDRA CHANDRA—*cont'd.*

examination and go onwards to the attainment of degrees. There should be no bar to students who really and earnestly strive to perfect themselves along these lines; but for all such the residential system of university education is strongly advised. One great and lasting benefit of the hostel attached to a college is that the students are in close proximity to the English professor, and any attempt to theorise or to exhaust the intellect by long and tedious hours of study is checked well in time. Each hour has its purpose set in the routine, games are given an equal chance with study, for in the development of the mind one often is inclined in early years to neglect the body, more especially so in India. The practical training given to the intellect in the hostel is often more to be preferred to the giving of innumerable lectures at unseasonable hours by itinerating professors whose ostensible and often unfulfilled purpose is to develope the mind, and with it the character of the pupil, a very laudatory aim but signally failing all along the way. Those desiring to go further in industrial pursuits should be given every facility in the technical institutions that are now being opened in India. The aimless study of growing young men should in all cases be stopped, for with these, learning achieved, with no opportunity in life to put knowledge into practice, there comes the inevitable result—stagnation leading on to dissatisfaction. The unrest of India may be, in a large measure, attributed to this cause along with few others. What is badly wanted in India is a system of education suited to India's needs, one that will go largely, if not wholly, to solve her many problems. We desire practical men who will serve her cause faithfully, not intellectual giants who will consume the sustenance of many idly, without any tangible result.

(Extract from the "Century Review" of September 1917.)

VI. GOVERNMENT AND EDUCATION.

General Memoranda.

CHATTERJEE, SRIS CHANDRA.

A great many of the evils, to which reference is made in the questions and which I presume are sought to be removed, are bound up with the question of the administrative policy of the Government and it may be necessary for me, therefore, to refer here and there to political aspects of the situation. Let me remark here by the way that whatever pious motives might have inspired the Commission, it would not be possible for it to effect any good, unless it be clearly brought home to the Government that a more liberal educational policy is necessary for remedying evils that are crying for reforms.

RAY, SATIS CHANDRA.

The end of education, says a great writer, can only be attained by identifying the national education with the living forces for good which are latent in the State. I fully agree in the sentiment expressed in this passage and consider that in an ideal university, its life and activities should be identified with the life and activities of the State. It therefore follows that all branches of education which are "necessary for service to, and advancement of" the State and which accordingly represent its activities, should be included in the activities of the University. Now, the "State" in India is the small group of citizens actually ruling or not, but belonging to the ruling race (which I shall call the *de facto* State) whose interests are apt to conflict with those of the people of the country; for, if human nature is universally what it is, the *de facto* State which is the embodiment of sovereign power, is likely to exercise it to its own benefit or advantage. There has, therefore, arisen, or is likely to arise a divorce between the *de facto* State and the Indian people, which has given rise, or is likely to give rise, to a similar divorce between the latter and the University, controlled as it is by the *de facto* State. It is also for this reason, I believe, that the Government of India has been hitherto perplexed to formulate and carry out a truly national educational policy in India, in complete harmony with the life, traditions, civilisation and the modern economic activities of the State, because it has been hampered by the difficulty of reconciling the interests of the *de facto* State and the Indian people. A university which is perpetually out of touch with these living national forces may prosper for a time under artificial stimulants; but if its development is to be progressive, spontaneous and permanent, it must be continuously animated by these forces. Hitherto the inspiration for the educational life and policy of the country has been mainly drawn from a foreign source, and we have still to rely on that source for our "highest teachers" and the highest training of our youths. If it comes to pass that we may be obliged to depend on that source for ever, the inevitable result will be that our University will fail to develope within itself those germs of life and activity which are necessary for acquiring for it that pre-eminent position of independence and strength which I consider to be one of the essential features of an ideal university. In order, therefore, to endow our University with a status and prestige worthy of the highest University, we must be left with a freedom to do our best gradually to develope it from within and to make it independent of the foremost universities of Europe, to which it now stands, as it were, in the position of an affiliated college. To develope the opportunities for the *highest* training, it is, therefore, absolutely necessary that our University should be sovereign, *i.e.*, it must have a large degree of freedom of teaching and study, and its life and activities should stimulate and be in turn stimulated by those of the State. The relation between the State and the University should be analogous to that between life and breathing—neither can exist without the other. Under present conditions, the *de facto* State draws its life and sustenance from foreign universities; the Indian State from Indian non-sovereign universities. There co-exist, as it were, two states with

RAY, SATIS CHANDRA—*contd.*

two lives within the same body politic nourished and sustained by two different sources. There is no fusion of interests between the two states, and the one draws its life blood from a weak body and the other from a strong and vigorous body. If the status and position of the Indian State rises to the elevation of the *de facto* State, the Indian universities will also attain to the eminence of the English universities. And this (*i.e.*, the fusion of the interests of the *de facto* State and the Indian people) is the sole condition on which the highest ideal of a university is attainable in this country. A sovereign university, which is synonymous with an ideal university, cannot live and thrive in a non-sovereign state.

I am bound to confess that the Calcutta University has many defects and has made some mistakes during the last ten years of its teaching career. But I must concede that they were inevitable and incidental to the difficulties of administration of a novel machinery. Reforms are no doubt necessary and some of them are urgent. The directions in which they should be carried out are the following:—

(*a*) Extension of accommodation by removing the buildings to a big site in the suburbs, the development of an *esprit de corps* among the teachers and the students, and the grant of freedom to teachers to exercise their powers of discipline over the students.

(*b*) The improvement of the position and prospects of teachers; and, as a compensation for the small salaries which they receive in comparison with those of members of other services, they should be endowed by Government with some sort of distinctive social rank.

(*c*) The institution of a few scholarships to enable some of our young teachers to study in foreign universities to qualify themselves for the highest teaching.

(*d*) Adequate Government subsidies for conducting the University in an efficient manner until public benefactions come forward. It is not difficult, however, to obtain such benefactions from wealthy people if the Government address an appeal to them. Such appeals have never failed to find response in the past in respect of matters other than educational; and it would not, I daresay, be improper nor undignified on the part of Government to make such an appeal on a matter of prime national importance. Public benefactions will, I expect, flow in spontaneously when society begins to feel, in its ramified activities, the benefits of University teaching.

(*e*) Recognition of the truth that the Government and the representatives of trade, commerce and industry should co-operate with the University to promote the interests not of the *de facto* State, but of the *de jure* State.

(*f*) Reforms in the system of recruitment for the public services: and the encouragement of a demand for the best university men on equal terms with Europeans. (I would not object to a small differentiation in salaries.)

(*g*) Expansion of the activities of the University for the highest training of Indian youths in agriculture and forestry, commerce, technology and engineering in all their branches, fine arts, etc., so as to develope to their fullest capacity their individual faculties in the respective branches to which they are most congenial.

The above should, in my opinion, be the minimum of reforms necessary to reconstruct the University on a sound and satisfactory basis. So long as it continues to occupy a small or subordinate place in the State, so long reforms suggested on any other basis will be unreal, infructuous and merely palliative.

VII. HEALTH OF STUDENTS.

General Memoranda.

BASAK, KRISHNAPRASAD.

Throughout the civilised world the necessity is fully admitted of a thorough and regular study of children with a view to the following :—

(*a*) Determining the standard, mental and physical, of the normal child.
(*b*) Finding out their defects in body and mind and prescribing the proper remedy.
(*c*) Adapting methods of training and education to the stage of their growth and development.
(*d*) Differentiating the mentally deficient from the normal and making separate provision for turning the former into useful and happy members of society.

Such studies in England, America, the Continent and, very recently, in Japan have been attended with the most satisfactory results. I drew the attention of the public to the need of medical examination of students in 1903, and that of the psychological in 1911, through the medium of *East and West* and *The Modern Review* but with practically no response. As the time now seems ripe for making a start, I have renewed my appeal and hope to see the idea a *fait accompli*.

At the very outset, it should be made clear that the aim is the true welfare of every child studied and not the mere collection of data for statistical or other purposes. Practical as the aim is, it will materialise itself in improved health and vigorous mentality of the individual child. At the same time the mass of information that will be collected will be readily available for the advancement of scientific study and of public health and sanitation, no less for the prevention of infant mortality.

The statement of aim is enough to show that the Government, the University, the district boards and municipal corporations, and all educational and charitable institutions dealing with children in any form on the one hand, and parents, teachers and medical men on the other are all vitally interested in the movement.

A beginning may and should be made with the pupils on the rolls of the high schools situated in Calcutta. A careful study of the number of such schools with their population shows a minimum of 15,000 children. The working days of Calcutta schools in the year amount to a little over 230. Making every allowance for all sorts of contingencies, regular study of children may be made for 200 days, which works out a daily average of 75 children. Striking a golden mean between the minimum time required for general, and the maximum for special, examination, forty minutes per child should be a fair estimate. It means 50 hours' work for every day.

Every child should be put to mental and physical tests at least once in the year. special cases being examined as many times as necessity warrants, followed, if need be, by reference to experts in diseases of the mind and body. The study will begin with the child, sojourn into the regions of science in order to find out his conformity or non-conformity to the normal type and the measures of his variability, and come back to him with a statement of measures, preventive or curative, for ensuring his real welfare. For this purpose there shall be established a close touch between the workers of this institution, on the one hand, and parents or guardians, teachers, medical men, health officers and superintendents of reformatories and lunatic asylums, on the other.

This brings me to the question of the workers necessary for carrying on the business of the institution. For regular examination fifteen whole-time qualified assistants (Rs. 900) shall be the minimum requirement. These may easily be recruited from among the graduates in medicine and psychology and diploma-holders of medical schools. For purposes of special examination and working out the data with reference to each child so as to find out his defects, mental and physical, and prescribe the cure or prevention, as the case may be, two experts (Rs. 400), one psychologist and one medical examiner, are necessary. Over and above these workers, there is to be a whole-time officer (Rs. 350) in charge of the entire institution whose business shall be to co-ordinate the work done by the experts and their assistants; communicate with the

BASAK, KRISHNAPRASAD—*contd.*

school authorities and parents or guardians; move, as necessity arises, the Government, the municipalities and other bodies concerned; do every thing to ensure the smooth working of the institution; and be ever on the alert to extend its operations to new fields and to promote developments in directions where children are the central figure. In short, this person should be the heart and soul of the movement whose enthusiasm tempered with experience of children at home and school will supply the motor power.

The initial expenditure by way of apparatus and appliances (Rs. 2,000), forms and furniture (Rs. 2,000), library and journals (Rs. 1,000), may be expected to amount in round numbers to Rs. 5,000. It should be noted here that some of the apparatus used in laboratories of experimental psychology may, without the least detriment to their efficacy, be made in this country. Hence the modesty of the figure given above.

The recurring expenditure will, besides the pay of the staff, include the charges of the office establishment, rent of the house wherein will be located the office and the laboratory and conveyance charges for visiting schools. This will come up to about Rs. 2,000 a month in round numbers and should not be grudged, if efficient work be the *sine qua non* of the existence of such an institution.

Since the Government and the Municipality are vitally interested in the true welfare of children, they may reasonably be expected to jointly make it possible to inaugurate the movement. Material help may also come from educated people who understand the need of providing the cheap ounce of prevention to spare the adoption of the costly pound of cure, not unoften without any satisfactory results. Parents and guardians who will be directly benefited are sure to put in their mite when they are convinced by experience of the good that this institution intends to achieve. As the data to be collected shall be available for the use of studies in experimental psychology, the University may naturally be expected to give the movement a substantial measure of help.

There shall be a governing council composed of representatives of different interests concerned. The business of this council shall be to administer the affairs of the institution, make appointments, regulate receipts and disbursements, cause reports to be published, and in every way secure the efficient working of the organisation. It shall be a public institution and shall necessarily be registered under Act XXI of 1860 (Charitable Societies' Act).

TESTS.

Physical.

1. Height—Standing and sitting.
2. Weight.
3. Head—Circumference and diameters.
4. Chest—Inspiration and expiration.
5. Sight—Acuity, heterophoria, fields of vision and of colour vision, colour vision, visual perception span.
6. Hearing—Acuity, localisation, localisation of movement, sensitivity to tickling.
7. Pressure—Acuity, least discernible difference, pain threshold.
8. Kinaesthesis—Acuity.
9. Taste—Acuity.
10. Smell—Acuity.
11. Teeth.
12. Heart.
13. Lungs—Vital capacity.
14. Glands.
15. Adenoids.
16. Deformity and abnormal peculiarity. (Hernia, phimosis, spinal curvature, etc.)

Mental.

1. Immediate memory span.—Articulate sound, visual symbols, colour, musical sound, form.
2. Retentiveness.
3. Association—Train of thought, word-association, reactions, emotional reactions.

BASAK, KRISHNAPRASAD—*contd.*

4. Active perception—Attention: duration, span, range. Imagination: linguistic, inventive. Reason:
5. Control of muscles in fixed position—Body, hand and arm.
6. Accuracy of movement.
7. Steadiness of movement.
8. Speed—Movement.
9. Fatigue—Muscular, mental.
10. Reaction—Simple and compound.
11. Suggestibility.
12. Image type.
13. General Intelligence—(Binet test).

A FEW FACTS FROM PERSONAL OBSERVATION.

What led me to think of the need of a child-welfare institute on the lines laid down above may be briefly stated:—

(i) My eldest son suffered from many ailments during childhood. His nature and nurture had therefore to be studied carefully. This familiarised me with a number of diseases peculiar to children and particularly those affecting the growth of their body and the training of their mind.

(ii) Another son of mine, when about twelve years old, began to grow alarmingly dull in understanding, accompanied with shortness of hearing. He was all along known as a bright boy and did almost all work in connection with his education at home unaided. Observation led me to suspect the growth of adenoids which suspicion was confirmed by an expert surgeon. A month's treatment cured the boy to the return of bodily health and mental vigour.

(iii) In teaching three of my children at home much time had to be spent in finding out the nature and extent of their mental powers and suiting accordingly the method of teaching them each subject, such as giving them notions of geographical terms and perspective in drawing, creating interest in history and geography through observation, experiment and excursion.

(iv) While discussing child psychology with the teachers of a high school, the absence of any information about the laws of growth, mental and physical, of our children was keenly felt. Yet there can be no doubt that of all the qualifications of a teacher the very first is a knowledge of the normal course of mental development of every child, particularly of the appearance of the instincts that blossom, ripen and pass into higher phases, provided they are given proper play at their nascent stage. Failure in rousing the interest of children in plants, animals and objects was traced to beginning lessons on them with *form* and *colour* instead of *use;* in drawing, to the neglect of using men and things of every-day use as models and to exacting accuracy and fineness in execution; in history and geography, to starting lessons on them with the help of books and maps instead of pictures, excursions and observations; in English, to beginning its teaching before giving the child a good grounding in his vernacular and his evincing any interest in the English people. Failure in keeping attention fixed on the subject under instruction was, in many cases, due to a disregard of the type of memory and level of intelligence of the pupils in the class.

(v) A preliminary study was made with the help of some friends of 371 children, consisting of 179 boys and 192 girls. Record was made of the age, height and weight of each on the physical side, and on the mental. In the absence of normal figures relating to the height and weight, according to age, of Indian children and realising the marked difference between the Indian child and the British or the American, Livi's figures relating to Italian children, living in the sunny south of Europe, were taken as a guide and amended in the light of our experience. Comparison with such amended figures showed that out of 188 girls 98 were suffering from vary-

ing degrees of ill-health and of 176 boys 103 were similarly situated. The teachers consulted confirmed the findings noted above.

(vi) Mental tests not having been applied, nothing could be made out about the mentality of the children studied. This did not prevent me from finding out the extent of school retardation with reference to those under instruction. These were 328 in number, consisting of 155 boys and 173 girls. Taking the university requirement, namely, the completion of the sixteenth year of age on the eve of the matriculation examination, as the tentatively normal age for reaching the standard of knowledge expected to be possessed by a matriculate, it was found that 250 children were above the normal age. Of these 117 were boys and 133 girls. The figures relating to girls did not, due to our lack of interest in the education of girls and women, surprise me. But the question of boys stands on a different footing, since every one of them has in time to earn his bread. Each such case calls for an enquiry in order to find out how far his own defects, mental or physical, have to do with retardation and what remedy can be prescribed to tackle with what may be a preventable wrong so that it may not become an irremediable curse through neglect.

GHOSH, RAI HARI NATH, Bahadur.

I must not lose this opportunity of mentioning a few convictions of mine referring to education as a means of securing efficiency for any people :—

I think that we can hope to develope a more efficient generation of men and women, if our education be orderly and sound from the outset; and a good order with a homogeneity of plan of effective control and guidance, and sound and effective teaching can only be secured in *Boarding Institutions*. This is the western method—boys and girls of those efficient races of men and women, are always put into boarding houses and convents as soon as their education is begun. The first thing they learn is discipline, which can be far more easily instilled into them than into older college students. And then they gradually develope a sense of duty which constitutes a very important step towards progress in any work, which they are required to do. They, moreover, learn to live in a sanitary way, which in their future life gives them a considerable protection against diseases and lightens so much the work of sanitarians, whom they must feel keener to help and keener to learn from and not keener to oppose as in many instances even now. Thus I can say, after all, that there will be such and other very important advantages of far-reaching consequence in training our children in boarding institutions. Further, we must not be misguided by an imposing array of a few brilliant scholars in any branch of knowledge, for it will be seen that for want of discipline and want of sanitary habits and sufficient sanitary knowledge, many such men have ceased to shine in their after life.

GRAY, Dr. J. HENRY.

As requested by the Commission I have the honour to submit such information as I have been able to gather in Calcutta regarding the place of physical education in American educational institutions. If further information is desired it may be necessary to send abroad for the catalogues containing it. I judge, however, that the enclosed will be sufficient.

I have arranged this information into three sections or groups :

(1) The regular required work for all under-graduates in two of the leading educational institutions in New York City, *i.e.*, Columbia University and the College of the City of New York. These are typical of practically all the best American colleges in the States and Canada. I enclose for your perusal

GRAY, Dr. J. HENRY—*contd.*

a paragraph from the report of the United States Commissioner of Education for 1912. (Appendix.)

(2) For the work offered by a special school or college of physical education under the University the following summary of the work offered by the Teachers' College, Columbia University, is a good illustration. While this institution is one of the foremost along such lines it is by no means the only one. Other examples would include the universities of Oberlin, Chicago, Michigan, and, I think, Leland Stamford. The work at Teachers' College is grouped under two of their schools—"The School of Education" and "The School of Practical Arts."

In the School of Education courses in scouting and vocational leadership are found under the general heading of vocational education. While under the "practical arts" heading, courses in biology, physiological chemistry, nutrition, hygiene, public health, nursing and health, and physical education are found.

In the School of Practical Arts, a full course of four years in physical education is offered. It groups itself under the following three main headings:—

(*a*) Teaching of hygiene and physical education.
(*b*) Supervision of play grounds.
(*c*) Supervision of hygiene and physical education.

The work in (*a*) and (*b*) may be included in four-year programmes leading to the degree of bachelor of science and a diploma. The work in (*c*) is open only to graduate students.

The subjects are similar in a general way to those offered in the School of Education with the practical work in addition.

In general the procedure is—A student elects physical education as his major subject and with it carries a full college course for which he gets his degree. This for the quantity of work done, while the diploma is awarded for the particular, specialised work taken, in this case, for physical education.

(3) Finally there are the educational institutions that offer full-time courses in physical education only. Really, technical schools, for physical education has advanced to the point where it is recognised as a separate profession, these institutions granting in some cases a degree (technical) and in other cases a diploma.

APPENDIX.

Report of the Commissioner of Education, for year ending June 1912, of the United States of America, volume 1, page 357.

Typical Health Teaching Agencies.—College work in hygiene. In order to illustrate what is being done in teaching in connection with regular college work, the following brief summary of the work done in the College of the City of New York is offered:

The department of physical instruction and hygiene of the College of the City of New York had for the year 1911-12 a staff of 17 professors, tutors, and assistants engaged in carrying out a programme including the following lines of work:

(1) Individual instruction in hygiene through a medical examination, hygiene instruction, and regular conferences;
(2) medical and sanitary supervision of all students with reference to board of health regulations, medical consultations, medical examination of athletes, and emergency treatment;
(3) lectures on hygiene (eight terms);
(4) instruction in physical exercise (drills with apparatus, swimming, outdoor games, and sports);
(5) general athletic control.

A good part of this work is prescribed for all students in the college.

ROY, HIRA LAL.

One of the functions of the University is to turn out good citizens. To accomplish this, students should be given opportunities and inducements to awake in themselves the spirit of civic rights and responsibilities. Organisations which are best likely to promote such spirit may be classified as follows:—

(*a*) Every college should have its "social service club" managed entirely by the students with some sympathetic professors as advisers, but without any direct control. The whole organisation should depend on the voluntary service of the students. Its activities may be directed in the following lines:—

(i) Opening and conducting night-schools in the college premises and outside.

(ii) Nursing the sick and the poor.

(iii) Reading and story-telling to the elderly workmen in slums and *bastis*.

(iv) Taking care of street boys and keeping them off from gambling and other evil doings.

(*b*) Law college students can engage themselves in social service work with profit to themselves and to the society by opening a "Free Legal Advice Bureau" for the poor honest litigants. Only the third-year law students should take part in it.

(*c*) Similarly a "Free Medical Advice Bureau" can be opened by medical students.

The idea of loyalty to the college and the University has become ridiculous to most of the under graduates. The reasons for the existence of such an unhappy state of affairs are many and of a various nature. It is impossible for me to dilate on the subject in this short and sketchy note. I shall merely point out one of the remedies, though only a partial one.

In western countries as well there is many a tussle between the college authorities and the under graduates, but these occurrences remain hidden within the four walls of the college and are easily forgotten. These very under-graduates show themselves up as staunch supporters of the reputation of their college and university when they have to encounter any outsider.

But in Bengal the case is entirely different. Here the spirit of loyalty is entirely lacking.

If the students are taken into confidence, if their grievances are given a patient hearing, and arguments for certain steps taken by the authorities but which are unpleasant to the students are set before them, then the whole student body will feel their importance and a spirit of co-operation will grow in them, and with it, as a necessary consequence, the spirit of love and loyalty.

But no one can argue with the whole student-body just as it is impossible to argue with a mob. Therefore the proper method of procedure would be to organise a "*Students' Council*"—

(A) To represent the students in matters affecting their interests.

(B) To afford a recognised means of communication between the students and the college and university authorities.

(C) To promote social life and academic unity among the students.

It will be no new innovation, for similar institutions are already in existence at Edinburgh, Harvard and many other universities.

Oral Evidence.

GRAY, Dr. J. HENRY.

28th February 1918.

Department of Physical Education.—Physical education should take its place as a definite part of the university system and should be recognised as having such a place. There should therefore be an adequate equipment, staff and programme of work outlined, for physical education.

GRAY, Dr. J. HENRY—*contd.*

2. In regard to Calcutta University as at present constituted this staff should act in an advisory capacity to the affiliated colleges. Courses would be drawn up for the use of colleges, examinations set and thorough inspection carried on. The head of this department should deliver university lectures. A university field should be provided where intra-and inter-collegiate matches and perhaps inter-university matches could be played.

3. Each college should employ a staff of physical instructors.

(*a*) On the theoretical side, the college staff should give some 50 lectures in two years on matters of health concluding with proper tests which should count towards taking a degree. This instruction might be given in the vernacular.

(*b*) On the practical side, every student should undergo the following:—

(i) A thorough medical examination as soon as possible after his admission to a college. This examination of a student would take about 20 minutes. If the number of students was very large, a second examiner might be necessary. Some Bengali students have objections to this examination, but it is not a religious objection. When such objection is serious, the student may be referred for examination to his family physician, whose report may be accepted if such person is acceptable to the authorities of the Physical Department of the University; or if still unwilling and unable to present satisfactory reasons, a recalcitrant student might be denied the privilege of attending the University. The examination should be repeated in normal cases once a year.

(ii) Regular class work for the first two years.

A student would be classified in accordance with the results of the physical and medical examination, either as able to take the regular collegiate physical work in the regular classes, or as requiring special work in special classes. The average student should have, under supervision, not less than two periods a week in class work for the first two years of his college course in actual physical developmental training, and three afternoon periods for games under supervision. Groups might include as many as 200 students.

(iii) Optional work for the last two years.

For the last two years and in post-graduate work, physical education should be required but may be optional as to whether it is of the gymnastic or games type. Three periods per week should be given to this in out-of-school time

(*c*) The equipment should consist of the following:—

(*i*) Medical examination offices with the necessary medical, physical and anthropometric apparatus.

(*ii*) Gymnasium or exercise hall or exercising space in the open 60′ × 100′ clear, as a minimum.

(*iii*) Arrangements for changing and bath, consisting of lockers, shower bath and taps and, when possible, a swimming bath.

(*iv*) A lecture room for small classes and the use of a larger room for lectures to a large group.

(*v*) Facilities for recreation and games, consisting of tennis, volley-ball, basket ball, badminton, fives, etc., attached if possible to the gymnasium or exercising space.

(*d*) Competitions in games should be worked out as a definite part of the regular programme of work. Indian games should be encouraged and any or all games should be introduced which require a small or moderate amount of space and use a large number of players at one time. This is especially applicable to Calcutta where lack of space prevents English games such as cricket, football, etc., being played on a big scale. There is at present no intra-collegiate organisation of games. There should also be an extension of the inter-collegiate competitions. The aim and plan should be to provide recreational facilities for every student in the college.

4. The witness thought that the average school boy had sufficient to eat. The Bengali boys take kindly to these physical exercises.

5. *Trained teachers.*—There should be an adequate training centre for physical instructors. This is essential and could be developed in one of the two following ways—

(*a*) It should be connected with the ordinary training of teachers. All students of normal colleges to receive a certain amount of advanced lecture work, and normal practice with emphasis on the pedagogy of physical education. In addition, for some students further courses should be provided enabling them to specialise in this branch of education.

(*b*) By establishing a special school or college of physical education under the University.

Such a college or technical school should provide a three or four years' course of work, with special equipment, staff and curriculum and grant at the conclusion a diploma or even a degree for such work.

RAY, RAMES CHANDRA.

12th February 1918.

The guidance of public opinion.—Students, teachers and guardians are ignorant of, and, what is worse, indifferent to, the laws of health. The ordinary diet of the Bengali is too poor in nitrogen. Such a simple device as the substitution of *chapaties* for rice once a day would be beneficial. The witness made the following further suggestions for improvement:—

(*a*) Standard diet lists should be prepared for the benefit of students.

(*b*) In addition to these lists, a doctor should be attached to a hostel or a group of hostels.

(*c*) A standing committee for the promotion of health among students might be constituted.

Advice in regard to physical exercise also would be beneficial. Football is too violent for Bengali boys, physically ill-developed and eating ordinary Bengali diet. An annual report showing the result of an examination of the health of *all* students, say of Calcutta, should be published by the Committee. On the basis of such annual reports for a series of, say, five consecutive years, should be calculated the minimum standard of diet and physical exercise suited to Bengali boys and girls of different ages. Compulsory action in enforcing exercises would be unwise *at present.* Gradual improvement is all that can be anticipated for the present from this educative propaganda. Medical examination of school boys and students all over Bengal should be introduced as soon as possible after the publication of the five consecutive years' report. Voluntary, continuous and sympathetic work is necessary and will be forthcoming. The out-of-pocket expenses of the Committee should be paid by the University.

2. *The hours of study.*—The hours of study at schools are too long specially in the lower classes, and some change is necessary. The school hours might be from 7 to 10 in the morning, after which the boys would take their food. After this meal might follow more work for an hour or so in the afternoon, only for the four upper classes, and then recreation. The witness referred to a school in Calcutta where an additional fee of Re. 1 is imposed per month per boy, the school funds contributing another rupee per boy per month, out of which food is provided to the boys in the middle of the day.

3. *Examination of boys.*—The medical examination of each boy takes about 15 minutes. This is a thorough examination with the exception of the chest and abdomen, and includes only a rough testing of the vision. If possible, a test of some parts of the body should be conducted every three months, *e.g.*, eye-sight, body weight, chest-expansion, etc.

4. *Residence.*—A new type of warden should be appointed. He should be a distinguished graduate of character, a sportsman, and should live with the students of the institution in which he teaches and have some knowledge of the laws of health. The dormitory system is better than cubicles or single rooms, as supervision is easier. The health and physical fitness of students is deteriorating. The witness considered the situation very serious.

SEGARD, DR. C. P.

12th February 1918.

Medical inspection of schools.—There is very little work along this line being done. Several of the mission schools have medical missionaries who have reported with regard to the physical condition of students in mission schools, especially with regard to tuberculosis. The Young Men's Christian Association, 86, College Street, Calcutta, have examined such of its members as are college students and have given them advice with regard to their condition and in case of physical deformities have given medical gymnastics for treatment. Government have had the services for the past nine years of the Director of Physical Education, Young Men's Christian Association. For five years the Physical Director devoted one-third of his time to Government and for the last four years he has devoted half of his time to Government service. His work has conclusively shown that the need for medical inspection is very great. The examination of college students has shown that there is a large proportion of students infected with venereal disease, skin diseases, etc., and that there is little chance in Calcutta for their receiving proper treatment. A large percentage of students in Calcutta are from the mofussil and come to Calcutta ignorant of many things and the result is disease and afterwards treatment by quacks.* The facilities of the Medical College dispensaries are insufficient, and the college students do not care to be seen among the patients of the out-door dispensaries of the Medical College Hospital. It is, therefore, necessary that some provision should be made with regard to a dispensary for the college students where they may be—

(*a*) physically and medically examined,
(*b*) told of their condition,
(*c*) given treatment when too poor to pay for same, and
(*d*) advised to consult a qualified practitioner when able to pay.

This dispensary should be outside the Medical College Hospital compound.

A start in the medical inspection of school children might be made in the mofussil, particularly in district centres by the district boards. Qualified medical men on the staffs of district boards could do a large part of the medical inspection.

2 *Hygiene and sanitation.*—The present condition of schools in Bengal is exceedingly bad with regard to hygiene and sanitation. The class room is dirty, the floor is seldom or never washed, and the desks and benches, windows and walls are filthy. Light and ventilation are given scant, if any, consideration. Latrines also require a great deal of consideration. At the present time most of the receptacles for waste are not covered, little disinfectant is used, and in many schools there is no latrine. The latrine question alone is one of considerable importance to Bengal as the jungles are, in many cases, used instead of building a latrine. Sweeper service is also very bad and the whole question needs to be considered very thoroughly before a decision is made.

Under these conditions it is absolutely impossible for discipline to be maintained, nor can the students be expected to maintain a clean outward appearance when the schools are so very dirty. In the case of drinking water, we find that there has been gross carelessness. Schools along the Ganges are in the habit of taking the raw water from the river and using it without boiling or the use of a disinfectant. In other schools, an insufficient supply of wood is allowed for boiling the water.

3. *Physical training.*—Physical training, as such, can do very little under the existing conditions of low grade teachers, low pay and present school environment. The low grade teacher cannot control the boys or exact attendance or discipline from them. To secure a good teacher, the pay should be increased and provision for training of teachers provided. At the present time there are two courses of six weeks each for the training of the present low grade teacher. This should be increased to a six months' course and the work of training them should be carried on jointly by the David Hare Training College and the Machua Bazar student playground where the present course is now held. The pay should be increased from Rs. 35 to Rs. 50 in high schools, Rs. 50 to Rs. 75 for training

* I saw Colonel Calvert and he agreed.—C. P. Segard.

SEGARD, Dr. C. P.—*contd.*

schools and Rs. 75 to Rs. 100 in colleges and training colleges. This pay would mean that a higher grade man would come up for the post, take this six months' training, and be able to go to a school, conduct the physical training, have full charge of games and be able to teach hygiene. This type of teacher would also be able to counteract by exercise the tendency of deformity among school children and constipation which is so common amongst students. Physical training and teaching of hygiene must be made compulsory in colleges.

4. *Hostels.*—Schools are using more and more attached hostels and therefore are taking over the responsibility of parents. This is a very serious question. Hostels are on the increase because there are the following tendencies on the part of parents:—

(*a*) To get their boys out of an unhealthy district.
(*b*) To get him away from home influence and home duties in order that he may have more time for study.
(*c*) To get him nearer to the school in order that he may be nearer the teacher who is acting as tutor.
(*d*) To place him in a better school than his own district affords.
(*e*) To get an unruly boy away from home.

Under these conditions, it would be seen that the good school will need more hostel accommodation and that the healthy districts will require more hostels. It is for this reason that Calcutta schools and colleges are crowded with students from the mofussil. The increase in hostels cannot be stopped unless more good schools are in evidence and more districts become known as healthy districts. It is necessary, therefore, that strict rules and regulations for the building, maintenance, and control of hostels be laid down at once. At the present time hostels are controlled largely by teachers whose only qualification is their financial need and not because they are particularly fitted to run hostels. Only teachers of recognised ability should be allowed to control the hostels. With a qualified teacher in the hostel, we might then expect that cleanliness with regard to dirt, parasites, bath-airing of bedding, light and ventilation, would be carried on.

5. *Summary.*—It is desirable that the University or the Department of Public Instruction or the two combined, have a department of hygiene which will include medical inspection of schools, hygiene and sanitation, and physical training. The head of this department would be the Director of Hygiene. He would lecture on hygiene in the University and colleges. There would be a dispensary and office in the Calcutta University for examination and treatment of students. There would be an assistant in each of the three departments mentioned. The dispensary would be an out-patient dispensary entirely. No distinction would be made between students who can afford an outside practitioner and those who cannot. With regard to treatment, there would be no recognisable distinction between venereal patients and others. This department would also inspect schools and colleges along the three lines mentioned and report to the University with recommendations. They would also lay down standards in the three departments. Government should take the lead in these matters, and see that their schools are such as may be used as a pattern for aided and un-aided schools to follow. In many cases, Government schools are as bad as private, aided or unaided, schools and have not in the past taken a lead in education.

At the last meeting of the Bengal section of the Medical Missionary Association, it was recommended to the Bengal Missionary Council that steps be taken to combat the increasing evil of venereal disease. It was also recommended that a medical and an educational officer be secured to work along these lines in mission schools.

VIII. MADRASSAHS.

General Memoranda.

HARLEY, A. H.

The Calcutta Madrassah was founded by Warren Hastings in 1781 for the training of Muhammadans as officers in the East India Company's service. When Persian ceased to be the court language the larger section of the community feeling that the study of English and the adoption of western methods and ways did not consort with their ideas held aloof. From the middle of last century efforts were frequently made to bring the Calcutta Madrassah and with it the affiliated madrassahs throughout Bengal into line with Government and private arts colleges, but the most that was conceded was the introduction of English as an optional subject into the Arabic Department and the formation of an Anglo-Persian Department, devoted to the modern school-course of study. At present about one-third of the 550 students in the Arabic Department take English in preference to the alternative language, Persian.

In 1911, Government decided to introduce into the Eastern Bengal madrassahs a revised course which in effect is a compromise between an oriental and a modern course. In the Punjab, a course had previously been introduced which retained the orthodox subjects and added English, the University guaranteeing the standard of both and conferring a degree. Further, in Egypt during Lord Kitchener's recent administration, a revised course on these lines was introduced into the stronghold of orthodoxy, al-Azhar. The trend, therefore, favours the retention of the old and the addition of the modern, and it is not out of place to mention that certain orientalists have advocated the erection of the new on the old and not the replacement of the latter as has practically occurred.

It would not however be fair to regard madrassahs as theological departments only and to award alumni a special degree and leave them with no better prospects than they now enjoy. Students of madrassahs would in an Islamic country be qualified for Government posts.

The course of studies in these orthodox seminaries is traditional, *i.e.*, the "sciences" necessary for the interpretation of the Quran are the main subjects of study, the remainder being those sciences which the Arabs learned from foreign peoples. In the Quranic sciences are included the traditional or religious sciences and the linguistic sciences; in the latter, the intellectual or philosophical sciences (also called the sciences of the foreigners).

I.—Native sciences.

1. Quranic exegesis (Ilmul-Tafsír).
2. Quranic criticism (Ilmul-Qirá'át).
3. Science of apostolic tradition (Ilmul-Hadíth).
4. Jurisprudence (Fiqh).
5. Scholastic theology (Ilmul-Kalám).
6. Grammar (Nahw).
7. Lexicography (Lughah).
8. Rhetoric (Bayán).
9. Literature (Adab).

II.—Foreign sciences.

1. Philosophy (Falsafah).
2. Geometry (Handasah).
3. Astronomy (Ilmul-Nujúm).
4. Music (Músiqí).
5. Medicine (Tibb).
6. Magic and alchemy (Al Sihr-wal-Kímiyá).

The foreign sciences are almost entirely omitted from the present Bengal Madrassah course, only philosophy (including logic) and geometry being retained, and it is unlikely that, of the remaining four, any, except medicine, will be restored to the curriculum. The Punjab University has organised the Madrassah and Sanskrit orthodox courses and examines the candidates. Lately still greater facilities have been extended to them

HARLEY, A. H.—*contd.*

and a student possessing the title, *i.e.*, honours course diploma can appear in B.A. English only and on passing is given the B A. degree (*vide* Punjab University Calendar 1917-18, page 161, 11A).

The Punjab scheme of oriental study is as follows :—

First stage proficiency.	Second stage high proficiency.	Third stage honours.
1. Arabic . . .	Title=Maulvi Alim . .	Title=Maulvi Fazil.
2. Persian . . .	„ Munshi Alim . .	„ Munshi Fazil.
3. Sanskrit . . .	„ Visharada . . .	„ Shastri.

According to rule 12 of the regulations for 1917-18, relating to diplomas and literary titles in oriental languages "a person who has passed any of the above examinations in oriental languages may present himself for examination in the English paper of the matriculation, intermediate and B.A. examinations of the arts faculty successively by paying half the usual fee of the said examination, and if successful shall receive from the University a certificate testifying to his having passed in English in the examination concerned." And according to rule 11A for the bachelor of arts examination (page 161, Calendar 1917-18), "any candidate who has passed the honours examination of the oriental faculty in Arabic, Sanskrit or Persian, and who has passed in the subject of English in the intermediate examination of the arts faculty under regulation 12 of the regulations relating to diplomas and literary titles in oriental languages, may be admitted to the B. A. examination in English only on payment of the usual fee and if he obtain pass-mark in this subject he shall be deemed to have passed the bachelor of arts examination."

Comparative table of the Calcutta Madrassah and Punjab University Oriental courses :—

Subject.	Calcutta Madrassah. Senior certificate (fourth and fifth years).	Punjab University. Maulvi Fazil or honours course (two years).
Arabic poetry . .	Diwani-Mutanabbi . .	Diwan-i-Mutanabbi.
..	..	Diwan-i-Hamasah.
..	Sabu Muallaqat . . .	..
Arabic prose . .	Maqamat-i-Hariri . . .	Maqamat-i-Hariri
Quran commentary	Tasri Jalalain . . .	..
Prophetic traditions .	..	Tafsiri Baidhawi.
Prosody . . .	Mishkatul-Masabih . .	..
Rhetoric . .	..	Muhittud Dairah.
..	Mukhtasar-ul-Maani . .	..
..	..	Mutawwal.
..	Faraid	..
..	Qutbi	..
Logic . . .	..	Sharhi-Matali.
..	Sullam	..
..	..	Hamdullah.
..	..	Rashidiyyah.
..	..	Sadrah.
Philosophy . .	Hidayat-ul-Hikmat . .	..
..	Ad-Durus-al-Awwaliyyah .	..
..	Hidayah	Hidayah.
Muhammadan law	Tawzih	..
..	Musullamus Subut . . .	..
Composition . .	Essay and translations . .	Essay in Arabic.
Geometry . . .	Euclid, Books III and IV. .	..
Grammar . . .	Mufassal	..
Theology . . .	Nasafi	..

Further, our students are obliged to take up English or Persian in addition, whereas the Punjab candidate for Maulvi Fazil may confine himself to Arabic.

The situation may therefore be summed up thus:—

(*a*) The Calcutta Madrassah senior certificate course is practically the same as that of the Maulvi Fazil of Punjab University.

(*b*) The Maulvi Fazil candidate can simultaneously or subsequently take up English, and on passing English of the B.A. standard is awarded the B.A. degree.

(*c*) The Calcutta Madrassah senior certificate student is given an option between English and Persian. The Persian course is quite as difficult as the Punjab University Munshi Fazil or honours Persian examination which corresponds to the Maulvi Fazil examination in Arabic and also entitles the holder to appear in B.A. English and on passing to secure the B.A. degree. The Calcutta Madrassah student who chooses English reads this subject up to a standard which is generally equivalent to the matriculation standard of Calcutta University. Frequently students offer in the senior certificate examination all three subjects, Arabic, English and Persian having studied privately the remaining optional language, English or Persian as the case may be.

(*d*) Students of Calcutta Madrassah Arabic Department can on passing the senior certificate examination proceed to a further course of study for three years at the conclusion of which the Title Fakhr (Pride) of the Apostolic Traditionists is bestowed. There is no such course in the Punjab. In view therefore of the similarity of the Calcutta Madrassah senior certificate course to that of the Maulvi Fazil and the superiority of Calcutta Madrassah title class students it is reasonable to request that students of oriental languages and religion in this province should be granted privileges not inferior to those of their co-religionists in the Punjab.

In accordance with the desire expressed by Government for the improvement of Calcutta Madrassah in order that it might meet more fully the needs of the community a new course of studies has been prepared and submitted to the Director for consideration. The effect of this will be to add one year to the senior certificate course and thereby at once to make the syllabus of studies more closely approximate to the orthodox and traditional, and to make the senior certificate course of Calcutta Madrassah superior to that of the Punjab Maulvi Fazil.

HUSSAIN, Shams-ul-Ulama VILAYAT.

The Arabic Department of the Calcutta Madrassah was founded by Government for the purpose of educating Muhammadan students of Bengal and fitting them for Government service. So long as the court language was Persian they discharged their duties creditably. But when Persian was abolished and English became the court language, no change in the system of teaching was made in the Madrassah which was the only institution for Muhammadans in the whole of Bengal. And as the Muhammadans did not take up English education they remained far behind the other communities in the race of life. Though changes were made in the courses no worldly benefits could result from them to students as no satisfactory provision for English education was made for them.

Now, I suggest that the courses of studies in the Arabic Department should be made more up-to date and that they should be taught English to such an extent as would enable them to conduct work in that language. Provision should accordingly be made in the Calcutta University so that they may be examined there in the courses of study and after passing their examination they may be given some diploma and title, and the various branches of Government services should be opened to them.

ISLAM, Khan Bahdur AMINUL.

In this note I do not propose to confine my remarks to the syllabus of Calcutta Madrassah alone, but will deal with the question of Madrassah education in general. It is an accepted principle that Muhammadan secular and religious education must go hand in hand: one is inseparable from the other. It was with this object in view that Government was pleased to introduce the reformed Madrassah scheme which is a compromise between the present Madrassah and school education, the object being to meet the special requirements of those members of the Muhammadan community who are not satisfied with the purely secular education now imparted in schools nor with the purely religious education given in the Madrassah. Experience has shown that this experiment has not met with success. The education given in a reformed madrassah does not fit them for the ordinary vocations of life nor give them sufficient knowledge of Islamic laws to make them useful as religious guides. A system of education must be evolved which should ensure that the rising generation receive in youth a sound and healthy training and be improved morally and intellectually, so that they may become useful members of society.

I would now proceed to the discussion of the question as to the subjects which should be taught in madrassahs. It will be noticed that Bengali has been omitted from the course proposed by the Head Maulvi, Calcutta Madrassah, and that Persian has been excluded from the curriculum of the reformed madrassahs and of the Dacca University. It is obvious that a Bengal Muhammadan must study his own vernacular, Bengali, which is also the court and business language of the province. It is, however, not necessary to turn the students into Bengali scholars, but to impart sufficient instruction in the Bengali language so as to equip them with a practical acquaintance of the vernacular for every day purposes. We venture to think that it would be sufficient to put in Bengali as the principal subject in a three years' *maktab* course and to retain Bengali composition in the madrassah course to keep up uniformity with the high school curriculum.

The other question which arises is whether Persian should be included in the madrassah course or it can be safely excluded. The reason for excluding it is that multiplicity of languages should be avoided in the ultimate interest of the students and relieve them from an intellectual burden which the study of Persian would involve; but on the other hand the utility of Persian as a spoken language in Asia; the existence of the largest number of works on *Sufism* in the said language and its position as one of the world's great classics mark it out as an Islamic subject of great importance. In its practical aspect every demand for a professor of Arabic contemplates a professor of Persian; and the product of the Madrassah is necessarily expected to be an Arabic and Persian scholar. Further the old Nizamia course included a study of Persian in addition to Arabic which furnishes a distinct admission of the value of Persian.

The next question is what would be the position of Urdu in the madrassah and *maktab* curricula. There is perhaps some difference of opinion as to the advisability of introducing Urdu, but as the Quran is in the Arabic script, which is nearly the same as the Urdu script, and as most of the elementary books on religion and morals are in the Urdu language the teaching of a few elementary primers in Urdu in the *maktab* course appears to be eminently desirable. Besides it will appear from the Dacca University scheme that Urdu has been made compulsory in addition to the vernacular in the first four classes of the madrassah course. Urdu is the most convenient medium of instruction for the teaching of Arabic and Persian, and hence a grounding in Urdu would greatly facilitate the subsequent development of those classics.

Below is a summary of the recommendations for a model madrassah scheme, having in view the aims and objects expressed in the beginning of this note:—

(*a*) A *maktab* course (three years); Bengali, Quran, moral lessons and religious instructions in Urdu, arithmetic and drills.

Note.—At the end of this course a student may either join a middle English school or go to a junior madrassah.

(*b*) A junior madrassah course—six years. The curriculum to be the same as the present reformed Madrassah course with the modification that English and

ISLAM, Khan Bahadur AMINUL—*contd.*

Persian be taught as compulsory subjects and Bengali composition to be included as an additional subject. Geometry, algebra, history and geography should also be included in this course. At the end of this course a student may either study for the matriculation examination or go to a senior madrassah.

(*c*) The senior madrassah course—four years. The subjects in this course would be as follows:—

(i) Arabic language and literature.
(ii) Jurisprudence.
(iii) Principles of jurisprudence.
(iv) Laws of inheritance.
(v) Commentaries on the Quran.
(vi) Traditions of the Prophet.
(vii) Aqaid.
(viii) Logic, etc., etc.

English or Persian may be taken up as an optional subject.

(*d*) Advanced or post-graduate course—two years.

Group I.—Philosophy, logic and theology.
Group II.—Arabic language and literature.
Group III.—Commentaries of the Quran and traditions of the Prophet.

After passing in one group, a student may sit for an examination in another group after one year.

This post-graduate course will appeal to distinct types of students and will remove the present opposition to the reformed madrassah scheme. It will also enable poor students who are unable to go to the Dacca University to obtain a fairly complete education in Arabic and qualify themselves to be leaders in religion.

It would perhaps not be practicable to open post-graduate classes in every madrassah on account of the dearth of qualified professors and for want of funds, but it would be possible and sufficient to open the classes in three of the leading reformed madrassahs in Bengal and to develope the system gradually in accordance with the demand for it. We would like to see the post-graduate side of the Calcutta Madrassah developed on lines similar to the Darul-Ulum at Deuband where learned savants freed from care and anxiety by substantial honoraria would meet their students on a more personal footing and add to their academic discourses the spirit of their own piety.

I would make the following additional sugestions:—

(1) All madrassahs should be put under a governing body in which there should be at least one ex-student.
(2) The selection of text-books according to the views set forth in the note may be entrusted to an expert committee in which learned men, like Maulana Abu Bakar, Abdul Awal and others and some practical men, should be represented.
(3) Students who have passed the madrassah final examination may be allowed to have votes in municipalities, local boards, district boards and legislative councils if otherwise qualified.
(4) There should be special free hostel accommodation for Arabic students.
(5) Students who pass the madrassah final examination with English as an optional subject should be allowed to appear at the mukhtearship and pleadership examinations and to read in the Campbell School, Sibpur College, Agricultural College, etc.
(6) Government have no doubt ruled that persons holding a madrassah final examination diploma and having a working knowledge of English are eligible for appointments as sub-registrars, but in practice preference is always given to students who have passed the intermediate examination. A certain number of appointments should be reserved for madrassah passed men.
(7) Research scholarships may be open to Arabic students.
(8) In appointing professors of colleges under Calcutta University and teachers of madrassahs preference should be given to qualified Bengal Muhammadans who have passed through the madrassah course with English.

ISLAM, Khan Bahadur AMINUL—*contd.*

(9) Only madrassah passed men should be appointed Qazis.

MAKTAB COURSE.

	Periods hours.
First year—	
(1) Qaida Baghdadi and Urdu Ka Quida	12
(2) Bengali—first Reader and second Reader	6
(3) Arithmetic	6
(4) Drills and country games	2
	26
Second year—	
(1) Ampara, and five books of Quran	6
(2) Urdu ki Pahli Kitab and Diniat ki Pahli Risala and Urdu-writing	6
(3) Bengali—third book, and Bengali-writing	6
(4) Arithmetic	6
(5) Drill	2
	26
Third year—	
(1) Whole Quran	6
(2) Urdu ki Dusri Kitab and Diniat ki Dusra Risala and Urdu-writing	6
(3) Bengali *maktab* readers and Bengali-writing	6
(4) Arithmetic	6
(5) Drill	2
	26

The secondary or junior madrassah course would run as follows :—

First year—	
Arabic . { Elementary sarf and nah in Urdu / Egyptian, Arabic Reader, Part I }	12
Bengali	2
English	4
Arithmetic	6
Persian	6
History in Urdu	4
	34
Second year—	
Arabic— { Kitab-us-Sarf in Urdu / Kitabun-Nah in Urdu / Egyptian Reader, Part II }	14
Bengali	1
Geography	3
English	6
Persian	4
Arithmetic	6
	34
Third year—	
Arabic . { (I) Egyptian Grammar in Arabic / (II) Egyptian Reader, Part III / (III) Translation and conversation }	14
Persian—including translation and conversation	4
Bengali	1
Geography	3
English	6
Arithmetic	6
	34

ISLAM, Khan Bahadur AMINUL—*contd.*

	Periods hours.
Fourth year—	
Arabic . { Kafiya (first half) / Egyptian Reader, Part IV / Translation and conversation / Munyatul Mussali }	15
Persian, including translation and conversation	4
Bengali	1
Geography	2
English	6
Arithmetic	6
	34
Fifth year—	
Arabic . { Kafiya (whole) / Arabic Reader V / Translation and conversation / Durrutul Abbasiya }	15
Persian, including translation and conversation	4
Bengali	1
Hygeine	2
English	6
Arithmetic—Euclid—Algebra	6
	34
Sixth year—	
Arabic . { Shahrah Jami / Arabic Reader VI / Translation and conversation / Qusidu Bad-ul-Amali }	15
Persian, including translation and conversation	4
Bengali	1
Hygeine	2
English	6
Arithmetic—Euclid—Algebra	6
	34

THE SENIOR MADRASSAH OR COLLEGE COURSE.

First year.

1. Language and literature.
2. Fiqh—Sharh Viqaya.
3. Usul Fiqah Nurul Anwar.
4. Faraiz—Sirajia.
5. Logic—Sharh Tahzib.
6. History in Arabic.
7. Arabic Translation and composition.
8. (Optional)—English or additional Arabic or Persian.

Second year.

1. Arabic language and literature.
2. Fiqh—2nd volume of Sharh Viqaya.
3. Usul Fiqh—Nurul Anwar.
4. Logic Qutbi.
5. History in Arabic.
6. Arabic composition and translation.
7. Optional—English or additional Arabic or Persian.

Third year.

1. Arabic language and literature.
2. Fiqh—Hidaya—Volume III.
3. Tauzih (Usul Fiqh).
4. Logic—Sullam (Tasawwarat).
5. Tafsir—Jalalain (first half).
6. Hidayat-ul Hikmat (first half).
7. Arabic composition and translation.
8. Aqaid Nasafi (first half).
9. Optional—English or additional Arabic or Persian.

Fourth year.

1. Arabic language and literature.
2. Fiqh Hidaya IV.
3. Tauzih.
4. Logic—Sullam (Tasdiqat).
5. Tafsir—Jalalain.
6. Hidayat-ul Hikmat (second half).
7. Arabic composition and translation.
8. Aquaid Nasafe (second half).
9. Optional—English or additional Arabic or Persian.

MADRASSAH* FINAL EXAMINATION. POST-GRADUATE COURSE BOOKS RECOMMENDED.

Group I.—Philosophy, logic and theology. Books recommended.

1. Sadra.
2. Shams Bazigha.
3. Mulla Husan.
4. Hamdulla.
5. Qazi Mubarak.
6. Mir Zahid Risala Quibiya.
7. Mir Zahid Umur Amna.
8. Sharah Mawaqif.
9. Mir Zahid Mulla Jalal.

Group II.—Language and literature. Books recommended.

1. Kitabul Aghani.
2. Yatimat-ul-Duhar, etc., etc.
3. Philology and history of Literature

Group III.

Hadis and Tafsir.
Sihah Sitta.
Tafsir Baizavi.
Nukhbatul Fikr.

N.B.—This is a two years' course; after passing in one group, a student may be allowed to pass in another group next year.

KARIM, Maulvi ABDUL.*

During the Muhammadan rule in Bengal there were madrassahs all over the country. Besides the well-organised institutions of the kind every mosque was a madrassah in miniature. Distinguished Arabic scholars, who devoted their lives to advancing Islamic learning, taught their co-religionists, without any remuneration from their pupils, theology, law and literature of Islam. Many of these institutions collapsed when the Musalmans lost their wealth and influence on account of the loss of sovereignty. As in the beginning of British rule in India Persian was retained as the court language, it was necessary to have an institution, well-equipped and well-staffed, for the training of officers. Warren Hastings established the Calcutta Madrassah in order to meet this requirement. Its course of studies was so framed as to give Government servants a good training. Some of the private madrassahs also adopted this course. As long as a knowledge of Persian was a passport to posts of honour and emoluments the education given in the madrassahs was very useful. When Persian was replaced by English and the provincial vernaculars, the madrassahs lost their utility and consequently also lost their popularity. But still a large number of orthodox Musalmans, who cared more for religious than for secular education, continued to send their children to the madrassahs instead of to the schools and colleges. As, however, their course of studies was not revised in view of modern ideas and present conditions, the madrassah students, as at present educated, are not qualified for any useful career in life, and many of them have to be a burden upon the community. In order to remedy this unsatisfactory state of things, the course of oriental studies has lately been revised and proposals for further

* This examination should be recognised by the University and diplomas should be given by it.

revision are under consideration. But, unless the madrassah students acquire a fair knowledge of English, they can neither properly earn their livelihood nor make themselves much useful to society. The question of the English education of Arabic scholars, therefore, demands careful consideration. It is a matter in which the Musalmans are vitally interested. For the community cannot be influenced for good or for evil to such an extent by anybody else as it can be by the *ulamas*. It is through them that the great majority of the people can be reached. It is, therefore, essentially necessary in the interests of the community as well as of the Government that the madrassah students should be given such an education as would make them intelligent and enlightened citizens.

2. Steps were taken from time to time with a view to induce the madrassah students to learn English. But these did not produce the desired effect, because those who learnt English did not derive any appreciable benefit. Although better educated than the matriculates and even the under-graduates, their claims to posts under Government were not recognised. Unless some inducements are offered by the conference of special privileges, madrassah students will not learn English to the desired extent. It is most desirable that the Calcutta University should do what the Punjab University has been doing in this respect. The Punjab University has been utilising the different intellectual abilities and activities in the province. It has established oriental faculties and has recognised the Arabic madrassahs and the Sanskrit *tols* as educational institutions under it. On their passing certain examinations in Arabic and Sanskrit, the oriental students are permitted to sit for examination in the English papers of the Matriculation, intermediate and B.A. examinations, and on their obtaining pass marks they are declared to have passed these examinations. Thus without studying subjects other than English prescribed by the University and without attending lectures in colleges, the oriental students in the Punjab obtain the matriculation and the I.A. certificates and even the B.A. degree.

3. The University of Calcutta should establish faculties of oriental studies like those of the Punjab University. The Arabic department of the Calcutta Madrasah, the course of studies of which is in no way inferior to that of the oriental faculties in Persian and Arabic of the Punjab University, should be recognised by the Calcutta University and its examinations should be held either by the University or, as at present, by a madrassah board. There is no reason why fifteen years' study of different subjects in the madrassah should not be regarded as of equal value in point of intellectual culture and moral discipline to the study in a university. It has to be borne in mind that in Islamic countries the education that makes great statesmen and administrators is similar to that imparted in the madrassahs in this country. Taking all these circumstances into consideration, I would suggest that the madrassah students on passing the junior and senior examinations be examined by the Calcutta University only in English up to the B.A. standard and, on their obtaining pass marks, be declared to have passed the university examination, the English paper of which is answered by them. Besides the recognition of the Arabic madrassahs, the University may utilise the university classes in Arabic and Persian for this purpose, provided erudite scholars, who may devote all their time and energy to study and research in the Islamic classics, are appointed lecturers. It is not desirable that those who follow other professions, which engage most of their time and attention and who are not reputed oriental scholars, should be appointed university lecturers.

Musalmans of Bengal.

We, the undersigned, have the honour most respectfully to represent that the Calcutta Madrassah was originally established with a view to afford a course of training to Muhammadan youths in Persian and Arabic literature and Muhammadan law, so that they might be profitably employed in service under Government; while, with the same purpose in view, the Sanskrit College was founded for the training of Hindu boys. So long as Persian remained the language of the court, scholars educated in the Calcutta Madrassah

Musalmans of Bengal—*contd.*

continued to be admitted into every branch of public service, often securing higher appointments, as those of munsiffs and sadar also, while they were also not inadequately represented at the Bar; and many of them rose to high eminence by the faithful discharge of their duties and unswerving loyalty to Government.

But later on, when, as a matter of course, English, superseding Persian, became the language of the court, the Hindus, to whom Persian was of no more value than as a means to worldly emoluments, having been for long habituated in learning the language of foreign rulers, easily drifted into the study of English, and the Sanskrit College gradually rose to its present status. On the other hand, the Muhammadans, having been so suddenly thrown out of Government patronage, were taken aback and could not give up the study of a language so vitally connected with their social and religious life; and consequently the Arabic Department, Calcutta Madrassah, continued to be run on the old lines with the result that it lost much of its former utility. Scholars passing from it no longer enjoy the good fortune of being employed in Government service, not to speak of a few marriage registrarships of Persian and Arabic teacherships in high English schools, for which also a knowledge of English has now become necessary. Under the circumstances they have been reduced to the necessity of either turning religious hawkers, living mainly on the charities of others, or becoming *imams* and *muezzins* attached to some mosques at starving wages.

A knowledge of English having become essential for Government service, attempts were made from time to time to introduce the study of English into the Arabic Department, Calcutta Madrassah, but they met with but indifferent success, till Sir Archdale Earle, now the Chief Commissioner of Assam, became the Director of Public Instruction, Bengal. His alert and sympathetic mind was at once directed towards the improvement of madrassah education in Bengal, and an official conference of representative Muhammadans from every part of Bengal and Bihar was convened under his presidentship. The result was that the syllabus of studies at present current in the Arabic Department, Calcutta Madrassah, was drawn up, introducing English as an alternative subject to Persian from the junior fourth year class to the senior fifth year class, a period of eight years' study equivalent to the matriculation standard of a university. Considering the fact, that up to the stage of the senior fifth year class, these students would have undergone a course of studies in Arabic, which in point of mental culture and moral discipline is in no way inferior to that of a modern university, but owing to its religious basis will surely prove much more effective, they were not required to undergo the trouble of a lengthy and expensive university education in order to fit themselves for higher appointments under Government, but it was decided that they should be provided with a special training only in English literature for two years more, either after the higher standard examination or the final title examination so that students, who would pass in the special English examination after the two years' special course in English should be deemed as equivalent to university graduates and be eligible for the same privileges from Government.

This scheme, we regret to find, has not been fully worked out, inasmuch as the special two years' course for the study of English has not yet been opened, thus compelling many of the students passing the higher standard examination with English to close their English studies at this incomplete stage, only very few being able to afford the expenses and trouble of continuing their English studies in high English schools or colleges for at least six or seven years more. It is, however, hopeful to observe that in spite of this drawback, more than one-third of the students now reading in the Arabic Department, Calcutta Madrassah, have voluntarily taken up English in preference to Persian; and we cannot but feel that the time has now come for the University of Calcutta to take these students under its protecting fold, as its sister university in the Punjab has already done to its students of oriental literature and learning. The latter university has established oriental examinations in Persian, Arabic or Sanskrit, namely, Munshi Alim and Munshi Fazil in Persian, Maulvi Alim and Maulvi Fazil in Arabic, and Visharad and Shastri in Sanskrit; and permits the students, who have passed the highest examination either in Persian or Arabic or Sanskrit, to present themselves for examination in the English papers of the matriculation, intermediate, and B.A. examinations of its arts faculty successively; so that any of such oriental students obtaining pass marks only in English at the bachelor of arts examination is deemed to have passed the said examination

and is admitted to the degree of bachelor of arts in that university. The syllabus of studies at present current in the Calcutta Madrassah up to the stage of the senior fifth year class is practically the same as that of the Maulvi Fazil of the Punjab University, while the curriculum for its title course is much superior to that; and it would not be out of place to ask for such privileges for the Arabic students in Bengal.

It is desirable to mention here that recently the Government of Bengal has formulated a reformed course for the madrassahs of Bengal under the Dacca University scheme and has decided to enforce it in all the madrassahs in Bengal except the Calcutta madrassah which should be run on the orthodox and traditional lines in order to meet with the social and religious needs of our community. We, the Muhammadans in Bengal, are too closely bound up with our religion, and there is still a strong demand for studies on the old and traditional lines with or without a good working knowledge of English which may be a passport to Government service. Therefore it is very desirable that facilities should be afforded to the students of madrassahs, teaching the orthodox course, when they evince an eager desire to learn the language of their rulers as a means to worldly emoluments, because thereby Government would be able to foster around it a band of loyal servants and faithful subjects who by their religious training would surely be much more devoted to Government than the votaries of a materialistic secular education.

Under the circumstances, we most fervently beg leave to submit this our humble representation before the members of the Calcutta University Commission, so that they might be in a position to give our prayer their generous consideration, for which act of kindness, the Muhammadans of Bengal in general shall remain for ever grateful.

SIRAJUL ISLAM,
(Nawab).

Z. R. ZAHID SUHRAWARDY.

A. F. ABDUL RAHMAN.

ABDUL KARIM.

MUHAMMAD IBRAHIM,
(Khan Bahadur).

AMINUL ISLAM,
(Khan Bahadur).

ABUL KASEM.

M. ATAUL HUQUE.

M. A. MUNIM,
(Khan Bahadur).

M. A. HAFEEZ.

M. SULTAN ALUM,
(Sahebzadah).

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD.

The Calcutta Madrassah was originally established with a view to afford a course of training to Muhammadan youths in Persian and Arabic literature and Muhammadan law, so that they might be profitably employed in services under Government; while with the same purpose in view the Sanskrit College was founded for the training of

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD - *contd.*

Hindu boys. So long as Persian remained the language of the court, scholars educated in the Calcutta Madrassah continued to be admitted into every branch of public service, often securing higher appointments as those of munsiffs and sadar also, while they were also adequately represented in the Bar; and many of them rose to eminence by faithful discharge of their duties and unswerving loyalty to Government.

2. But later on, when as a matter of course, superseding Persian, English became the language of the court, the Hindus to whom Persian was of no more importance than a means to worldly emoluments, having been for long habituated in learning the language of foreign rulers, easily drifted into the study of English, and the Sanskrit College gradually rose to its present status. On the other hand, the Muhammadans, having been so suddenly thrown out of Government patronage, were taken aback and could not give up the study of languages so vitally connected with their social and religious life; and consequently the Arabic Department, of the Calcutta Madrassah, continued to be run on the old lines with the result that it lost much of its former utility. Scholars passing from it no longer enjoy the good fortune of being employed in Government service, not to speak of a few marriage registrarships or Persian and Arabic teacherships in high English Schools, for which also a knowledge of English has now become necessary. Under the circumstances they have left nothing but to turn religious hawkers, living mainly on the charities of others, or to become priests in mosques at starving wages.

3. A knowledge of English having become essential for Government service, attempts were made from time to time to introduce the study of English in the Arabic Department, of the Calcutta Madrassah; but they met with but indifferent success, till Sir Archdale Earle, now the Chief Commissioner of Assam, became the Director of Public Instruction, Bengal. His alert and sympathetic mind was directed towards the improvement of madrassah education in Bengal and an official conference of representative Muhammadans from every part of Bengal and Bihar was convened under his presidentship. The result was that the syllabus of studies at present current in the Arabic Department, of the Calcutta Madrassah, was drawn up, introducing English as an optional as well as alternative subject to Persian from the junior fourth-year class to the senior fifth-year, a period of eight years' study almost equivalent to the matriculation standard of a university. Considering the fact that, up to the stage of the senior fifth-year class, these students would have undergone a course of studies in Arabic which in point of mental culture and moral discipline is in no way inferior to that of a modern university, but owing to its religious basis is expected to be much more effective, they were not required to undergo the trouble of a lengthy and expensive university education in order to fit themselves for higher appointments under Government, but it was decided that they should be provided with a special training only in English literature for two years more, either after the higher standard or the final title examination, so that students who would pass in the special English examination after the two years' special course in English, should be deemed as equivalent to university graduates and be eligible for the same privileges from Government.

4. It is to be regretted that although a sufficient number of students from this institution as well as from the Hooghly Madrassah, where Sir Archdale's scheme was enforced, has been annually passing the higher standard examination with English, the special English class, which would have afforded so great a facility, has not been opened yet, thus compelling many of these students to close their English studies at this incomplete stage, only a few being able to afford the expenses and trouble of continuing their English studies in high English schools and colleges for at least six or seven years more. As far as I can judge from the attitude of the students, the establishment of this special class for the study of English would have much more popularised the study of English among the students of the Arabic Department, inasmuch as in spite of this drawback the number of the English reading students has ever since been on the increase, the total number at present being no less than 191 out of a maximum of 545 on the rolls.

5. During the time that I have been in the Calcutta Madrassah, I have been firmly convinced, from my contact both with the students and the Muhammadan public, that among the Muhammadans of Bengal there is still a great demand for Arabic studies on the traditional lines coupled with a good working knowledge of English; and while preparing

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my scheme for the improvement of the Calcutta Madrassah, which is now under the consideration of the authorities, whenever I had occasion to consult public gentlemen, I was repeatedly asked to formulate such a course of studies as might improve the Arabic side and at the same time afford facility to the study of English literature. Accordingly I have tried to raise the Arabic syllabus to the highest efficiency that can be found in any of the seats of Arabic learning throughout India, and at the same time have provided for a twelve years' course of studies in English which is expected to be at least equivalent to the matriculation standard of a university. As it is evident from the attitude of Government that it does not favour the scheme of the two years' special course in English, the students must have recourse to university education for further studies in English. But, after a complete course of studies in Arabic in this institution for fifteen or fourteen years, either as at present provided or as contemplated in my scheme, it can hardly be expected that the majority of the students will have left sufficient energy and means to undergo university education in its full course for at least six or seven years more. This is a difficulty, which can only be solved in the way in which it has already been done in the Punjab University. The said university has established oriental faculties in Persian, Arabic or Sanskrit, and permits the students of its various oriental faculties to present themselves for examination in the English papers of the matriculation, intermediate, and B.A. examinations of its arts faculty, successively so that any of such oriental students obtaining pass marks only in English at the bachelor of arts examination is deemed to have passed the said examination and is admitted to the degree of bachelor of arts in that university From my connection with the Punjab University for over thirty years, I am in a position to testify to the splendid results of this scheme, and I cannot but wonder why such a scheme has not been yet formulated in Bengal where there is such a strong demand for oriental studies on the old lines coupled with a good working knowledge of English.

6. Under the above circumstances I beg to submit the following proposals for the kind consideration of the members of the Calcutta University Commission :—

(*a*) That the University of Calcutta may be pleased to take the Arabic Department of the Calcutta Madrassah, under its protection and patronage, and establish faculties of oriental learning in Persian and Arabic on the lines prescribed for this institution, the syllabus of which even in its present condition is superior to that of the oriental faculties of Persian or Arabic as provided in the Punjab University.

(*b*) And that the students of the oriental faculties in Persian and Arabic as studied in the Calcutta Madrassah may be permitted to present themselves for examination in the English papers of the matriculation, intermediate and B.A. examinations in the arts faculty of the Calcutta University, successively and in case of securing pass marks only in English may be deemed to have passed in the particular examination to which they might have presented themselves.

7. I beg to forward herewith a copy of the present syllabus of studies for the Arabic Department, Calcutta Madrassah, as well as that of my scheme for its improvement for your kind perusal.

8. In conclusion, I fervently hope that my humble proposals will receive your kindest consideration and the boon prayed for may be granted, thus conferring a lasting benefit to the Muhammadans of Bengal, who by their unswerving loyalty and faithfulness to the Government have always deserved this consideration.

APPENDIX.

Revised regulations for the central examination of the Bengal madrassahs under the new scheme.

Examinations in Arabic and Persian literature, and Muhammadan law, etc., for the students of the first year to the fifth year classes of the senior (or college) section of the Bengal madrassahs, named in Schedule I, shall be held annually by the Central Board

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of Examiners, Bengal Madrassahs. Persian shall be optional for those who will take up English as a subject for examination. The Principal and the Head Maulvi of the Calcutta Madrassah shall be Registrar and Assistant Registrar, respectively, of the Board. The examiners shall be selected by the Registrar for each year's examinations, subject to the confirmation of the Director of Public Instruction, Bengal.

2. The examinations shall be held at Calcutta, Hooghly, Sasaram, and such other places as may be hereinafter appointed, in the month of April, the exact date of the commencement of the examination being annually fixed and published by the Registrar with the sanction of the Director of Public Instruction, Bengal.

The examinations held for the senior third year and fifth year classes shall, respectively, be named the lower and the higher madrassah standards.

The heads of the Government madrassahs and affiliated madrassahs in Bengal shall submit to the Registrar lists of candidates to be examined at least forty-five days before the commencement of the examination, accompanied by the proper fees and a statement showing the place at, and the examination to, which the candidates are to be admitted. A candidate who fails to pass or to present himself for examination shall not be entitled to claim a refund of the fee; but he may be admitted to one or more subsequent examinations on payment of the full fee on each occasion.

3. The following fees shall be levied:—

Rupees 7 for admission to the examination of the senior fifth year class, or the higher madrassah standard.

Rupees 5 for admission to the examination of the senior fourth year class.

Rupees 5 for admission to the examination of the senior third year class, or the lower madrassah standard.

Rupees 3 for admission to the examination of the senior second year class.

Rupees 2 for admission to the examination of the senior first year class.

4. The examination shall be conducted by means of written papers, the same questions being set in every place where the examination is held.

The examination of the senior first year class shall be held for five days, that of the senior second year class for six days, those of the senior third and fifth year classes for seven days, and that of the senior fourth year class for eight days, two papers of questions being set for each day of examination except on the last day. Three hours' time shall be allowed for each of the papers set in the forenoon as well as those set in the afternoon.

For the purpose of calculating pass marks, the papers shall be arranged in the groups of papers. The subjects and marks of the papers, and the arrangement of the several groups of papers, shall be as shown in Schedule III.

5. In order to pass any examination a candidate shall be required to obtain not less than 25 per cent. of the total number of marks in each group of compulsory papers, and to secure an aggregate of not less than 33 per cent. of the maximum total of marks. In order to pass in the optional subject, the marks for which shall not be counted towards the aggregate, a candidate shall be required to obtain not less than 25 per cent. of the total number of marks in that subject.

In case a student takes up either English or Persian, the marks secured by him in that particular subject shall be counted towards the aggregate; but in case a student takes up both English and Persian the marks secured by him in English shall be counted towards the aggregate as those of a compulsory subject, while the marks secured by him in Persian shall be kept separate as those of an optional subject.

Passed candidates securing not less than 50 per cent. of the maximum total of marks shall be placed in the first division; those securing not less than 42 per cent. in the second division; and the rest in the third division.

6. After the close of the summer vacation the Registrar shall send a list of candidates who have passed, arranged in order of merit, separately for each Madrassah, to the Director of Public Instruction, Bengal, for sanction and publication in the *Calcutta Gazette*. The heads of the several madrassahs shall be supplied at the same time with a list of successful candidates of their respective institutions.

7. The fact of a candidate's having taken up English as a compulsory subject or Persian as an optional one shall be mentioned in his pass certificate.

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8. The revised courses of reading prescribed for the five senior classes are shown in Schedule II.

SCHEDULE I.

Institutions in Bengal authorised to send up candidates for the examinations of the Bengal Madrassah are—

Calcutta Madrassah.
Hooghly Madrassah.
Sasaram Madrassah.

SCHEDULE II.

Revised syllabus of studies for the senior (or college) classes.

FIRST YEAR CLASS.

Arithmetic in Urdu.—G.C.M. and L.C.M.; vulgar fractions; unitary method; theory of decimals (both terminating and recurring); practice; simple and double rule of three, measurements; square and cubic measure, *e.g.*, carpeting, painting, paths, etc. *Mankasha, sherkasha, bighakali.*

Arabic—

Grammar.—Kafiyah (from beginning to the end of Atful Bayan). Shafiyah (from beginning to the end of Bahs-i-haruf-i-Ziyadat).
Literature.—Almuntakhabat-ul-Arabiya (whole) and Nafhat-ul-Yaman (Chapter I).
Composition.—Reproduction of passages from the books which the students have read.
Translation.—Of passages in such a book as the Anjuman-i-Homayat-ul-Islam's Urdu Primer.

Fiqh (*Muhammadan law*).—Muniyat-ul-Musalli (whole) for Sunni students. Najat-ul-ibad (Tahrat, Salat, and Sawm) for Shiah students.

Persian—

Literature.—Sarmaya-i-Khirad (excluding selections from Shahnamah and Akhlaq-i-Jalali).
Composition.—More difficult essays on topics similar to those prescribed for the essay-writing of the sixth year junior (or school) class, *viz.*, incidents of the class-room, the play ground, the street and the bazar.

English.— A reader for middle classes in Bengal (Anglo-Urdu), by E. Marsden and M. M. Bose (Lessons 63 to 114, inclusive). Junior translation, by B. M. Ganguli.

***N.B.*—Persian will be optional for students who take up English.**

SECOND YEAR CLASS.

Geometry in Urdu.—Propositions I to XXXII of Euclid, Book I.

Arabic—

Grammar.—Kafiyah (from Bahs-i-Mabni to the end). Shafiyah (from Bahs-i-Imal to the end).
Literature.—Mustatraf, Volume I (Chapters I, II, III, IV, V, IX, X, XI and XII).
Translation.—From Urdu into Arabic.
Composition.—Reproduction of more difficult passages from the book which the students have read.

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Fiqh (*Muhammadan law*).—Sharh-i-Waqayah, Volume I (whole), and Sirajiyah (from beginning down to zawilarham) for Sunni students. Sharaya-ul-Islam (first half) for Shiah students.

Usul Muhammadan jurisprudence.—Nurul-anwar—up to Ijma (whole) for Sunni students. Maalin-ul-usul (whole) for Shiah students.

Logic.—Mizan Mantiq (whole).

Persian—

Literature.—Diwan-i-Hafiz (from beginning to the end of Radif-i-Ta) Akhlaq-i-Nasiri (from Maqala-i-awwal to the end of Fasl-i-Panjum of Qism-i-Sani, pages 16 to 110, Calcutta Edition, 1269 A. H.).

Composition.—Essay-writing; the subjects to be historical or biographical.

English.—Æsop's Fables, by Cassel & Co. The School Reader, by M. A. Haq. Elementary English Grammar, by Rowe and Webb. Junior Translation, by B. M. Ganguli. Composition, by McMordie.

***N.B.*—Persian will be optional for students who take up English.**

THIRD YEAR CLASS.

Geometry in Urdu.—Propositions XXXIII to XLVIII (Book I) and Book II of Euclid.

Arabic—

Grammar.—Mufassal of Zamakhshari (from beginning to the end of Bahs-i-ism)

Literature.—Hamash-Babul-adabwan-Nasib. Muqaddamah-i-Ibn Khaldun (Fasl I.) Tafsir-i-Jalayan (the first one-third portion).

Translation.—From Urdu into Arabic.

Composition.—Essay-writing.

Fiqh (*Muhammadan law*).—Sharh-i-Waqayah, Volume II (Chapters on Nikah, Riza, Talaq, Aiman, Laqit, Luqta, Mafqud, Shirkat and Waqf) for Sunni students. Sharaya-ul-Islam (second half) for Shiah students.

Usul (*Muhammadan jurisprudence*).—Tawzih (Chapter I) for Sunni students. Talkhis (first half) for Shiah students.

Logic.—Sharh-i-Tahzib (whole) and Qutbi (Tasawwurat).

Rhetoric.—Mukhtasar-ul-Ma'ani (from the beginning to the end of Ahwal-i-musnud).

Persian—

Literature.—Habibus-Siyar (from the beginning to the end of the history of David). Mantiqut-Tair (from the beginning to the end of the story of the Shaikh of Bosrah's visiting Rabiya).

Composition.—Essay-writing.

English.—Boy's Odyssey, by W. Capland and Perry. Grimms' Popular Stories. Children's Treasury, Part I, by Palgrave (select pieces). Elementary English Grammar by Rowe and Webb. A Manual of Translation, by B. M. Ganguli. Composition, by McMordie.

***N.B.*—Persian will be optional for students who take up English.**

FOURTH YEAR CLASS.

Geometry in Urdu.—Book III of Euclid.

Arabic—

Grammar.—Mufassal of Zamakhshari (from the beginning of Bahs-i-Fil to the end).

Literature.—Diwan-i-Mutanabbi (to the end of letter *ba*). Tafsir-Jalalayn (the second one-third portion).

Translation.—From Urdu into Arabic.

Composition.—Essay-writing.

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Fiqh (*Muhammadan law*).—Hidayah, Volume III (Chapters on Bay', Sarf, Iqrar Ijara, and Hibah, for Sunni students). Sharh-i-Luman (Ibadat) for Shiah students.

Usul (*Muhammadan jurisprudence*).—Tawzih (from the beginning of Chapter II to the end of Rukn-i-Sani) for Sunni students. Qawanin (the first one-third portion) for Shiah students.

Logic.—Qutbi (Tasdiqat) and Sullam (Tasawwurat).

Rhetoric.—Mukhtasar-ul-Maani from Ahwl-i-Muta' allaqat-ul-Fi'l to the end of Wajh-i-Tashbih.

Aqaid (*Theology*).—Sharh-i-Aqaid-i-Nasafi (first half) for Sunni students. Sharh-i-Bab-i-Hadi Ashar (whole) for Shiah students.

Philosophy.—Hidayat-ul-Hikmat (Tabiyat)—Addurus-ul-Awwaliyah (first half).

Persian—

Literature.—Tarikh-i-Wassaf (from the beginning of Volume II to the death of Salghur Shah, pages 144 to 169). Hadiqah-i-Sanai (from the beginning to the end of the chapter on the conditions of the five prayers, 1 to 130, Newal Kishore Edition). Qasaid-i-Qaani (to the end of *Radif Ba*).

Composition.—Essay-writing.

English.—Heroes by Kingsley. Sketch Book (Rip Van Winkle and the Legend of the Sleepy Hollow), by Washington Irving. English Poems, by Jennings. English Grammar, Book IV, by Nesfield. A Manual of Translation, by B. M. Ganguli.

***N.B.*—Persian will be optional for students who take up English.**

FIFTH YEAR CLASS.

Geometry in Urdu.—Book IV of Euclid.

Arabic—

Literature.—Muallaqat (I to IV, inclusive) for all students. Maqamat-i-Hariri (I to V, inclusive) for all students. Mishkat-ul-Masabih (from the beginning to the end of the chapter on Qunut, pages 1 to 114, As-hul-Matabe, Lucknow, 1326 A.H.) for Sunni students. Manlayahzar-ul-Faqih (first half) for Shiah students.

Translation.—From Urdu into Arabic.

Composition.—Essay-writing.

Fiqh (*Muhammadan law*).—Hidayah, Volume IV (Chapters on Shufa, Zabayeh, Uzhiyah, Karahiyat, Ashriba, Rehn, and Wasaya) for Sunni students. Sharh-i-Luman (the rest) for Shiah students.

Usul (*Muhammadan jurisprudence*).—Musallamus-Subut (from the beginning to the end of Maqalah II) for Sunni students. Qawanin (the rest) for Shiah students.

Logic.—Sullam (Tasdiqat).

Rhetoric.—Faraid, by Mulla Mahmud of Jaunpur (from the beginning to the end of Fann-i-Sani).

Aqaid (*Theology*).—Sharh-i-Aqaid-i-Nasafi (second half) for Sunni students. Tanzih-ul-Anbia (first half) for Shiah students.

Philosophy.—Hidayat-ul-Hikmat (Ilahiyat)—Addarus-ul-Awwaliyah (second half).

Persian—

Literature.—Masnavi of Mawlana Rumi (Daftar I). Kulliyat-i-Khaqani (Qasidahs—from the beginning to the end of the Qasidah which the Poet wrote while he was in prison, pages 1 to 106, Newal Kishore Edition, 1908).

Composition.—Essay-writing.

English.—Ivanhoe, by Scott. Jungle Book, by R. Kipling. English Poems, by Jennings. Poetical Selections, by School Book Society. English Grammar, Book IV, by Nesfield. A Manual of Translation, by B. M. Ganguli.

***N.B.*—Persian will be optional for students who take up English.**

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SCHEDULE III.

The subjects and marks of papers and the arrangement of the several groups of papers.

FIRST YEAR CLASS.

Serial No.	Time.	Subject of papers.	Maximum number of marks.	Groups of papers.
I	First day, Morning	Arabic literature	35	I
II	Evening	Arabic grammar	30	
III	Second day, Morning	Arabic composition and translation	35	
IV	Evening	Muhammadan law	25	II
V	Third day, Morning	Arithmetic	25	
VI	Evening	Persian text	25	III
VII	Fourth day, Morning	Persian composition	25	
VIII	Evening	English text and grammar	25	IV (alternative to III).
IX	Fifth day, Morning	English composition and translation	25	
		AGGREGATE TOTAL OF MARKS	200	

SECOND YEAR CLASS.

I	First day, Morning	Arabic literature	35	I
II	Evening	Arabic grammar	30	
III	Second day, Morning	Arabic composition and translation	35	
IV	Evening	Muhammadan law, including Faraiz	50	II
V	Third day, Morning	Muhammadan jurisprudence	30	
VI	Evening	Logic	30	III
VII	Fourth day, Morning	Geometry	30	
VIII	Evening	Persian text	30	IV
IX	Fifth day, Morning	Persian composition	30	
X	Evening	English text and grammar	30	V (alternative to IV).
XI	Sixth day, Morning	English composition (essay) and translation.	30	
		AGGREGATE TOTAL OF MARKS	300	

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THIRD YEAR CLASS.

Serial No.	Time.	Subject of papers.	Maximum number of marks.	Groups of papers.
I	First day, Morning .	Arabic poetry	30	I
II	Evening .	Arabic prose	30	
III	Second day, Morning .	Arabic grammar	25	
IV	Evening .	Arabic composition and translation .	30	
V	Third day, Morning .	Muhammadan law	25	II
VI	Evening .	Muhammadan jurisprudence . . .	25	
VII	Fourth day, Morning .	Logic	25	III
VIII	Evening .	Rhetoric	25	
IX	Fifth day, Morning .	Geometry	25	
X	Evening .	Persian literature	30	IV
XI	Sixth day, Morning .	Persian composition	30	
XII	Evening .	English text and grammar . . .	30	V (alternative to IV).
XIII	Seventh day, Morning .	English essay and translation . .	30	
		AGGREGATE TOTAL OF MARKS .	300	

FOURTH YEAR CLASS.

I	First day, Morning .	Arabic poetry	40	I
II	Evening .	Arabic prose	40	
III	Second day, Morning .	Arabic grammar	30	
IV	Evening .	Arabic composition and translation .	40	
V	Third day, Morning .	Muhammadan law	30	II
VI	Evening .	Muhammadan jurisprudence . . .	25	
VII	Fourth day, Morning	Logic	30	III
VIII	Evening .	Rhetoric	25	
IX	Fifth day, Morning .	Geometry	25	
X	Evening .	Philosophy	30	IV
XI	Sixth day, Morning .	Theology	25	
XII	Evening .	Persian literature	30	V
XIII	Seventh day, Morning .	Persian composition	30	
XIV	Evening .	English text and grammar . . .	30	VI (alternative to V).
XV	Eighth day, Morning .	English essay and translation . .	30	
		AGGREGATE TOTAL OF MARKS .	400	

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FIFTH YEAR CLASS.

Serial No.	Time.	Subject of papers.	Maximum number of marks.	Groups of papers.
I	First day, Morning .	Arabic poetry	45	I
II	Evening .	Arabic prose	45	
III	Second day, Morning .	Arabic composition and translation .	40	
IV	Evening .	Muhammadan law	30	II
V	Third day, Morning .	Muhammadan jurisprudence . . .	30	
VI	Evening .	Logic	30	III
VII	Fourth day, Morning .	Rhetoric	30	
VIII	Evening .	Geometry	30	
IX	Fifth day, Morning .	Philosophy	30	IV
X	Evening .	Theology	30	
XI	Sixth day, Morning .	Persian literature	30	V
XII	Evening .	Persian composition	30	
XIII	Seventh day, Morning .	English text and grammar . . .	30	VI (alternative to V).
XIV	Evening .	English essay and translation . .	30	
		AGGREGATE TOTAL OF MARKS .	400	

RULES FOR THE TITLE EXAMINATION.

THE title course shall extend over a period of three years, at the end of which the final examination for the title shall be held. Examinations shall also be held at the end of the first and second years, upon which promotion to the next higher class will depend.

2. Classes for this course will be opened in the Calcutta Madrassah only. Students who have passed the higher madrassah standard examination from any of the affiliated madrassahs of Bengal shall be eligible for admission to the title course, but no applicant will be admitted otherwise than to the first year class.

3. After completing the studies for the first year class of the title course, students will be allowed to specialise in one or more of the following four groups:—

(*a*) Hadis (The Traditions). Tafsir (Interpretations on the Quran), and Aqaid (Theology).
(*b*) Muhammadan law and jurisprudence.
(*c*) Literature, rhetoric, and prosody.
(*d*) Logic and philosophy.

The general history of Islam will be included under each of the four groups shown above, but no books will be prescribed. The complete syllabus for the title course is given in Schedule I.

4. The examinations shall be held in April, the exact date of the commencement thereof being annually fixed and published by the Registrar, Central Board of Examiners, Bengal Madrassahs, with the sanction of the Director of Public Instruction, Bengal. The examiners shall also be selected by the Registrar for each year's examinations, subject to the confirmation of the Director of Public Instruction, Bengal.

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5. The examinations to be held at the end of the course prescribed for the first and second year classes will be conducted as class examination and no fees will be levied from candidates appearing at them.

A fee of Rs. 20 will be charged for admission to the final examination for the Title in each group of the subjects.

6. The examination for the first year class of the title course shall be held for five days, two papers being set for each day of the examination. Three hours' time shall be allowed for each of the papers set in the forenoon as well as those set in the afternoon.

At the annual examination of the second year class as well as at the final examination for the Title, there will be four papers in each group and one additional paper on the history of Islam in general,—one paper of five hours being set for each day.

The arrangement of the papers and their marks shall be as shown is Schedule II.

7. To secure promotion from class to class a student must obtain at least 50 per cent. in the aggregate and 33 per cent. in each subject at the annual examination.

At the final examination a candidate securing not less than 50 per cent. in each paper and 70 per cent. of the aggregate total of marks for his specialised group shall be considered eligible for the Title testifying to the proficiency in the group.

8. The following Titles shall be bestowed :—

(*a*) *Fakhr-ul-Muhaddisin.*—For proficiency in Hadis, Tafsir, Aqaid and general history of Islam.

(*b*) *Fakhr-ul-Fuqaha.*—For proficiency in Fiqh, Usul and general history of Islam.

(*c*) *Fakhr-ul-Udaba.*—For proficiency in literature, rhetoric, prosody and general history of Islam.

(*d*) *Fakhr-ul-Hukama.*—For proficiency in logic and philosophy and general history of Islam.

9. After the close of the summer vacation the Registrar shall send to the Director of Public Instruction, Bengal, for sanction and publication in the *Calcutta Gazette*, a list of candidates who have qualified themselves for the Title on the results of the final examination, mentioning in each case the special group taken by the candidate, and the Title appertaining thereto. A certificate of proficiency signed by the Registrar and the Director of Public Instruction, showing by the appropriate Title the branch of learning which has been studied shall be granted to each successful candidate.

SCHEDULE I.

The syllabus of studies for the title course.

FIRST YEAR CLASS.

Arabic Literature.—Maqamat-i-Hariri (VI to X, inclusive). Kitab-ul-Aghani (first half of Volume I of Beyrouth Selection). Ka'b-ibn-i-Zuhayr's Qasidah called "Bana Suad." Hamasah-Bab-ul-Hamasah (first half, Calcutta Edition, 1856 A. D.).

Hadis (The Traditions).—Tirmizi (whole) and Ibn-i-Maja (whole) for Sunni students. Usul Kafi (first half) for Shiah students.

Tafsir (Interpretations of the Quran).—Boyzavi (from the beginning down to the half of Surah-i-Baqr) for Sunni students. Tafsir-i-Safi (first one-third) for Shiah students.

Rhetoric.—Faraid, by Mulla Mahmud of Jaunpur (from the beginning of Fann-i-Salis to the end of Qanun-i-awwal).

Aqaid (Theology).—Aqaid-i-Jalali (whole) for Sunni students. Tanzih-ul-Anbia (second half) for Shiah students.

Philosophy.—Sadra (from the beginning to Bahs-i-Zaman, inclusive). Shams-i-Bazegha (from the beginning to the end of Bab-i-Sani, up to page 58, Mustafai edition, 1288 A. H.)

Logic.—Qazi Mobarak (from the beginning to Bahs-i-Mauzu, inclusive). Hamdulláh (from the beginning to Bahs-i-Shartiyát, inclusive).

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD—*contd.*

Group (*a*).—Hadis, Tafsir, and Aqaid.

SECOND YEAR CLASS.

Hadis.—Abu Daud (whole) and Nesai (whole) for Sunni students. Wasail (whole) for Shiah students.

Tafsir.—Kashshaf (whole) for Sunni students. Majma-ul-Bayan (first half) for Shiah students.

Aquaid.—Sharh-i-Maqasid (whole) for Sunni students. Shawariq (whole) for Shiah students.

THIRD YEAR CLASS.

Hadis.—Muslim (whole) and Bukhari (whole) for Sunni students. Istibsar (whole) for Shiah students.

Tafsir.—Tafsir-i-Tabari (whole) for Sunni students. Majma-ul-Bayan (second half) for Shiah students.

Aqaid.—Sharh-i-Mowaqif (whole) for Sunni students. Sharh-i-Tajrid (whole) for Shiah students.

Group (*b*).—Muhammadan law and jurisprudence.

SECOND YEAR CLASS.

Muhammadan law.—Hidayah, Volumes I and II, and Fath-ul-Qadir, Volumes I and II for Sunni students. Qawaid-i-Allama (first half) for Shiah students.

Muhammadan jurisprudence.—Tahriri-Ibn-ul-Humam (whole) and Talwih (whole) for Sunni students. Rasail-i-Shaikh Murtaza (first half) for Shiah students.

THIRD YEAR CLASS.

Muhammadan Law.—Hidayah, Volumes III and IV, and Fath-ul-Qadir, Volumes III and IV, for Sunni students. Qawaid-i-Allama (second half) for Shiah students.

Muhammadan Jurisprudence.—Usul-i-Bazdavi, with its commentary, called the Kashfi-i-Usul-i-Bazdavi (whole) for Sunni students. Rasail-i-Shaikh Murtaza (second half) for Shiah students.

Group (*c*).—Literature, rhetoric and prosody.

SECOND YEAR CLASS.

Literature.—Maqamat-i-Hariri (whole). Hamasah (whole). Kitab-ul-Aghani, Volume I.

Rhetoric.—Sakkaki's Miftah-ul-Ulum (whole).

THIRD YEAR CLASS.

Literature.—Nahj-ul-Balaghat (whole). Kitab-ul-Aghani, Volumes II and III.

Rhetoric.—Asrar-ul-Balaghat, by Abdul Qahir Jurjani (whole).

Group (*d*).—Logic and philosophy.

SECOND YEAR CLASS.

Logic.—Sharh-i-Matali' (whole). Asfar-i-Arbaa'h (whole).

Philosophy.—Sharh-i-Isharat (whole). Sharh-i-Cheghmini (first half).

THIRD YEAR CLASS.

Logic.—Ufuqul-Mubin (whole). Mantiqiyat-ush-Shifa.

Philosophy.—Ilahiyat-Sush-hifa. Sharh-i-Cheghmini (second half).

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD—*contd.*

SCHEDULE II.

The subjects, the arrangement of papers, and the marks.

FIRST YEAR CLASS.

Serial No.	Time.	Subject of papers.	Maximum number of marks.
I	First day, Morning	Arabic poetry	50
II	Evening	Arabic prose	50
III	Second day, Morning	Arabic essay	50
IV	Evening	Tafsir	50
V	Third day, Morning	Hadis (Tirmizi)	50
VI	Evening	Hadis (Ibn-i-maja)	50
VII	Fourth day, Morning	Logic	50
VIII	Evening	Rhetoric	50
IX	Fifth day, Morning	Philosophy	50
X	Evening	Theology	50
		AGGREGATE TOTAL OF MARKS	500

Group (*a*).—Hadis, Tafsir and Aqaid.

SECOND YEAR CLASS.

I	First day	Hadis (Abu Daud)	100
II	Second day	Hadis (Nasai)	100
III	Third day	Tafsir (Kashshaf)	100
IV	Fourth day	Aqaid	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

THIRD YEAR CLASS.

I	First day	Hadis (Muslim)	100
II	Second day	Hadis (Bukhari)	100
III	Third day	Tafsir	100
IV	Fourth day	Aqaid	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD—*contd.*

Group (*b*).—Muhammadan law and jurisprudence.

SECOND YEAR CLASS.

Serial No.	Time.	Subject of papers.	Maximum number of marks.
I	First day	Muhammadan law (Hidayah)	100
II	Second day	Ditto (Fath-ul-Qadir)	100
III	Third day	Muhammadan jurisprudence (Tahrir-i-Ibn-ul-Humam)	100
IV	Fourth day	Ditto Talwih	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

THIRD YEAR CLASS.

I	First day	Muhammadan law (Hidayah)	100
II	Second day	Ditto (Futh-ul-Qadir)	100
III	Third day	Ditto jurisprudence (Usul-i-Bazdavi).	100
IV	Fourth day	Ditto (Kashf-i-usul-i-Bazdavi)	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

Group (*c*).—Literature, rhetoric and prosody.

SECOND YEAR CLASS.

I	First day	Arabic poetry	100
II	Second day	Arabic prose	100
III	Third day	Arabic essay	100
IV	Fourth day	Rhetoric and prosody	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

THIRD YEAR CLASS.

I	First day	Arabic literature (Nahjul-Balaghat)	100
II	Second day	Ditto (Kitabul Aghani)	100
III	Third day	Arabic essay	100
IV	Fourth day	Rhetoric and prosody	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD—*contd.*

Group (*d*).—Logic and Philosophy.

SECOND YEAR CLASS.

Serial No.	Time.	Subject of papers.	Maximum number of marks.
I	First day	Logic (Sharh-i-Matali)	100
II	Second day	Do. (Asfar-i-Arbaah)	100
III	Third day	Philosophy (Sharh-i-Isharat)	100
IV	Fourth day	Ditto (Sharh-i-Chegmini, first half).	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

THIRD YEAR CLASS.

I	First day	Logic (Ufuq-ul-Mubin)	100
II	Second day	Do. (Mantiqiyat-ush-Shifa)	100
III	Third day	Philosophy (Ilahiyat-ush-Shifa)	100
IV	Fourth day	Ditto (Sarh-i-Chegmini second half).	100
V	Fifth day	General history of Islam	100
		AGGREGATE TOTAL OF MARKS	500

ABDULLAH, Shams-ul-Ulama MUFTI MUHAMMAD—*contd.*

نصاب مجوزہ جناب شمس العلماء مولانا مولوي حافظ مفتي محمد عبداللہ صاحب ٹونکي صدر مدرس مدرسۂ عالیہ کلکتہ بمشورۂ دیگر مدرسین برائے جماعتہائے طبقہ (اولی)

جماعات	صرف - نحو - ادب - بلاغت ترجمہ و تحریر عربي	تعداد ساعات	فقہ - کلام - قرأۃ	تعداد ساعات	منطق	تعداد ساعات	فارسي	تعداد ساعات	اردو	تعداد ساعات	تاریخ جغرافیہ	تعداد ساعات	حساب - ہندسہ	تعداد ساعات	مشق - خط املا نویسي ترجمہ تحریر فارسي	تعداد ساعات	انگریزي اختیاري	تعداد ساعات	مجموعہ تعداد ساعات
سال ۱	میزان منشعب	۶	مشق قرأۃ	۲	.		فارسي کي دوسري (حمایت الاسلام)	۴	اردو کي تیسري (حمایت الاسلام)	۴	.		حساب رسم اعداد جمع تفریق - ضرب - تقسیم بسیط	۵	مشق خط	۵	انگریزي	۴	۳۰
سال ۲	پنج گنج (تا خاصیت ابواب) تیسیرالادب حصہ (۱) مائۃ عامل منظوم	۴ ۵ ۲	مشق قرأۃ	۲	.		فارسي کي تیسري (حمایت الاسلام) مفتاح القواعد حصہ (۱)	۵	اردو کي چوتھي (حمایت الاسلام)	۴	.		تحویل - جمع - تفریق - ضرب - تقسیم مرکب - مقسوم علیہ اعظم ذو اضعاف اقل	۵	مشق خط و املا نویسي	۳	انگریزي	۴	۳۴
سال ۳	علم الصیغہ نحومیر - شرح مائۃ با ترکیب تیسیرالادب حصہ (۲)	۴ ۵ ۵	مشق قرأۃ	۲	.		انتخاب گلستان و بوستان وغیرہ مفتاح القواعد حصہ (۲)	۳	تواریخ حبیب اللہ نصف (۱)*	۳	آئینہ عالم حصہ (۱)	۲	کسور عام - طریق و حدتي حساب روز مرہ	۴	ترجمہ بفارسي	۲	انگریزي	۴	۳۴
سال ۴	فصول اکبري (از شروع تا اصول مضاعف) ہدایۃ النحو تیسیرالادب حصہ (۳) ترجمہ بعربي	۳ ۳ ۳ ۲	مشق قرأۃ	۲	ایسا غوجي قال اقول	۳	سرمایۂ خرد (باستثناء) حصۂ شاہنامہ و اخلاق جلالي مفتاح القواعد حصہ (۳)	۳	تواریخ حبیب اللہ حصہ (۲)	۲	تاریخ ہند آئینہ عالم حصہ (۲)	۲ ۲	کسور اعتباریہ اربعہ تناسبیہ جذرالمربع	۳	ترجمہ بفارسي	۲	انگریزي	۴	۳۴
سال ۵	فصول اکبري (از اصول مضاعف تا ختم کتاب) کافیہ مستطرف (منتخب صفحہ ۱۲۰) ترجمہ بعربي	۴ ۴ ۴ ۲	مشق قرأۃ	۲	میزان منطق	۲	انوار سہیلي (پہلے دو باب) ہفت پیکر (ملا نظامي)	۵	حقائق الاسلام (ازشروع تا صفحہ ۸۰)	۲	.		ستہ متناسبہ و مشق حساب گذشتہ	۳	ترجمہ بفارسي	۲	انگریزي	۴	۳۴
سال ۶	شرح جامي (تا منصوبات ختم) تاریخ تیموري (از ابتدا تا توجہ تیمور بسوئے ہند) ترجمہ و تحریر بعربي	۵ ۳ ۲	مشق قرأۃ مراقي الفلاح فقہ اکبر	۲ ۳ ۱	شرح تہذیب	۳	قاآني سہ نثر ظہوري	۲	حقائق الاسلام حصہ (۲)	۲	.		ہندسہ (مقالہ اولی مترجم اردو) مشق حساب گذشتہ	۲ ۲	تحریر فارسي	۲	انگریزي	۴	۳۴

* باب فصل یا کسي عنوان کي تخصیص کردیجائیگي - اسي طرح ہر کتاب مین جسکے حصے مقرر کئے گئے ہین -

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جماعات	ادب - عروض - بلاغت - ترجمہ و تحریر عربي	تعداد ساعات	تفسیر - حدیث - اصول حدیث قرأة	تعداد ساعات	فقه - اصول فقه - فرائض - کلام	تعداد ساعات	منطق - فلسفه - هیئت - مناظره	تعداد ساعات	انگریزي (اختیاري)*	تعداد ساعات	مجموعه تعداد ساعات
سال ١	مقامات حریري (از شروع ٥ مقامه) دیوان متنبي (ـو صفحه) تجربه و تحریر بعربي	٢ ٢ ٢	مشکوٰة شریف (ثلث اول) تفسیر مدارک (ثلث اول) مشق قرأة	٣ ٣ ٢	مجمع الانهر شرح ملتقي الابحر نورالانوار (ثلث ١) سراجي کامل - شرایع الاسلام حصه (١) نجاة العباد (هر دو برائے شیعه طلبه)	٣ ٣ ٢	قطبي (تصورات) مناظره رشیدیه	٢ ٢	انگریزي	٤	٣٠
سال ٢	مقامات حریري (از مقامه سادسه تا مقامه عشره) عروض باقافیه دیوان حماسه (باب المراثي و الادب) مختصر المعاني حصه (١) ترجمه و تحریر بعربي	٢ ١ ٢ ٤ ٢	مشکوٰة شریف (ثلث ٢) تفسیر مدارک (ثلث ٢) مشق قرأة	٣ ٣ ٢	شرح وقایه نصف (١) نورالانوار ثلث (٢) شرایع اسلام حصه (٢) (برائے شیعه طلبه)	٣ ٣	قطبي (تصدیقات) میبذي (طبعیات)	٢ ٣	انگریزي	٤	٣٤
سال ٣	دیوان حماسه (باب الاضیاف والنسیب) مختصر المعاني حصه (٢) ترجمه و تحریر بعربي	٢ ٤ ٢	مشکوٰة شریف (ثلث ٣) تفسیر مدارک (ثلث ٣) مشق قرأة	٣ ٣ ٢	شرح وقایه جلد (٢) نورالانوار ثلث (٣) شرح عقاید نصفي شرح اللمعان و تخلیف حصه (١) (برائے شیعه طلبه)	٣ ٣ ٣	سلم العلوم (تصورات) میبذي (الٰهیات)	٢ ٣	انگریزي	٤	٣٤
سال ٤	حماسه (باب الحماسه) مطول (تاما انا قلت) انشا عربي	٢ ٣ ٢	ابن ماجه (کامل) نسائي (کامل) مشق قرأة	٥ ٣ ٢	هدایه اخیرین ثلث (١) تلویح (از ابتداء تا بحث حروف معاني) قوانین حصه (١) شرح باب حاوي عشر تمام (هر دو برائے شیعه طلبه)	٣ ٣	حمدالله صدرا (تازمان نصف (١)) تصریح		انگریزي	٤	٣٤
سال ٥	بانت سعاد فرائد (از ابتداء حصه (١)) انشاء عربي	١ ٣ ٢	موطا امام مالک شرح نخبة الفکر - مشق قرأة بیضاوي (حصه (١) از بقره)	٣ ٢ ٢ ٢	هدایه اخیرین ثلث (٢) تلویح نصف آخر - شرح اللمعان (معاملات قوانین حصه (٢) تنزیه الانبیاء حصه (١) (هرسه برائے شیعه طلبه)	٣ ٤	شرح مطالع (تصورات) میر زاهد رساله مع غلام یحیی صدرا نصف (٢)	٣ ٣ ٢	انگریزي	٤	٣٤
سال ٦	سبع معلقه فرائد حصه (٢) مقدمه ابن خلدون انشاء عربي	٢ ٢ ٢ ٢	ترمذي کامل معه شمائل بیضاوي حصه (٢) مشق قرأة و متن جزریه	٨ ٢ ٢	هدایه ثلث (٣) مسلم الثبوت	٣ ٣	قاضي مبارک (تا بحث موضوع) شمس بازغه (تا بحث حرکت)		انگریزي	٤	٣٤

* انگریزي صرف زبان داني طبقه ثانیه کے آخري جماعت تک مٹریکولیشن تک هوجائیگي - ١٢

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جماعتیں	گروپ حدیث و تفسیر و عقاید	تعداد ساعات	گروپ ادب و دیگر علوم ادبیه	تعداد ساعات	گروپ منطق و فلسفه رهیئت وغیره	تعداد ساعات	گروپ فقه و اصول فقه	تعداد ساعات	مجموعه تعداد ساعات
سال اول	بخاري شريف جلد (۱) مسلم شريف جلد (۱) ابو داؤد حصه (۱) شرح معاني الآثار جلد (۱) تفسير كشاف حصه (۲) حجة الله البالغه حصه (۱) شرح مواقف حصه (۱) تاريخ الاسلام	۶ ۵ ۴ ۳ ۴ ۲ ۶	كتاب العمده دلائل الاعجاز ديوان نابغه ديوان عروة رسايل بديع الزمان نصف (۱)		مير زاهد امور عامه شرح چغمني (تابحث قسي) حاشيه قديمه		فتح القدير نصف (۱) تحرير الاصول لا بن الهمام نصف (۲) شرح مختصر الاصول لا بن الحاجب نصف (۱) مسلم الثبوت كامل نصف (۱)		۳۰
سال دوم	بخاري شريف حصه (۲) مسلم شريف حصه (۲) ابوداؤد حصه (۲) شرح معاني الآثار جلد (۲) تفسير كشاف حصه (۲) حجة الله البالغه حصه (۲) شرح مواقف حصه (۲) تاريخ الاسلام	۶ ۵	ديوان امراء القيس ديوان علقمة الفحل رسائل بديع الزمان نصف (۲) اسرار البلاغة كتاب الصناعتين		الهيات الشفاء منطقيات شرح اشارات (للمحقق الطوسي) محاكمات (للقطب الدين الرازي) شرح تذكرة (للطوسي)		فتح القدير نصف (۲) تحرير الاصول لا بن الهمام نصف (۱) شرح مختصر الاصول لا بن الحاجب نصف (۲) كشف للبزدوي مسلم الثبوت كامل نصف (۲)		۳۰

(شمس العلماء) مفتي محمد عبدالله عفي عنه (صدر مدرس مدرسه عاليه كلكته)

دس ——— تخط

مدرسين مدرسه عاليه كلكته جو نصاب هذا كي تجويز مين شريك تهے

صفي الله (شمس العلماء) محمد ناظر حسن (نائب الصدر مدرس مدرسه عاليه كلكته - محمد اسحٰق - محمد يحيى عفي عنه - عبد الصمد عفي عنه - سيد وصي الدين محمد سهول عفي عنه - محمد مظهر عفي عنه (حكيم) ابو اسمٰعيل محمد خليل الله عفي عنه - محمد زاهد حسين - خليل بن محمد عرب - محمد قاسم - محمد اسمٰعيل عفي عنه - عبد الجليل - محمد عبد السلام - فضل الرحمٰن محمد ايوب غفرله الذنوب (فخر المحدثين)

SUHRAWARDY, Z. R. ZAHID.

At the secondary stage there should be a bifurcation, one branch having oriental literature as its principal subject with English, equal to the general standard, as a second language. Other subjects of arts and sciences should be taught through the medium of a vernacular. The Anglo-Persian Department of the Calcutta Madrassah may be split up into two divisions, one general and the other oriental. English is now taught as an optional second language in the Arabic Department. The oriental section of the Anglo-Persian Department will absorb Arabic students reading English and leave the Arabic Department purely oriental with elementary English as an optional second language, if there be any demand for it. This will leave the Madrassah a type of indigenous institution following the old system on lines similar to the Nizamia College of Egypt and some of the well-known Arabic seats of learning in Upper India.

The University should recognise indigenous institutions following the old and purely oriental system like the Sanskrit *tols*. Special degrees and diplomas should be awarded and full recognition granted to such institutions.

IX. MEDICINE.

General Memoranda.

Ayurvedic Doctors of Calcutta.

We, the undersigned members of the medical profession practising the Ayurvedic system of medicine, beg to bring before you the following facts regarding the Ayurvedic system, and request that the Calcutta University Commission would make it convenient to take the evidence of some of us on the subject.

From His Majesty the King-Emperor downwards the necessity of conserving the ancient culture of India as embodied in the various theoretical and practical sciences and arts of the East has been recognised on all hands. We beg to submit that of all departments of this culture the science of Hindu medicine merits the greatest support not only as the fountain-head of the clinical wisdom of ages, but also as a science that had once made great progress in all its branches and was the source of inspiration in the progress of medical knowledge all over the world. Although its scientific study has been neglected for centuries for reasons over which Indians had no control, it has survived and held its own in the practical field even to the present day and has been resorted to by high and low alike amongst the Indian population. There can be little doubt that its therapeutic results are in many cases remarkable. We may also add that the preparations of indigenous drugs according to the Ayurvedic Pharmacopœia have been found in our comparative study and observation to be more suitable to the Indian constitution than foreign medicines.

We may also point out that the vast population of India is yet benefited by the Ayurvedic system to the largest extent.

Unfortunately, the Indian universities have so far done very little towards the conservation and proper study of this very useful branch of oriental learning. We venture to think that the medical science of the world would have made greater progress, and suffering humanity would have been more benefited than at present, if suitable arrangements for the systematic and scientific study of Ayurveda could be made under the ægis of our universities.

We, therefore, earnestly pray that a recommendation for the establishment of a separate Ayurvedic Board be made by the University Commission as a preliminary step towards the proper study of, and researches in, the Ayurvedic system in our University.

Surendra Nath Goswami.

Nogendra Nath Sen.

Rakhal Chandra Sen.

Gananath Sen (Mahamahopadhyaya).

Jamini Bhushan Ray, Kaviratna.

Dakshina Ranjan Ray Chaudhury.

Banerjee, M. N.

The students that pass out of the medical schools obtain diplomas from the State Medical Faculty. The University should be represented on that Faculty and should have some control generally over all medical education.

GHOSH, BIMAL CHANDRA.

Scheme for the medical course, making the course last for six years for matriculates, five years for those who pass the I.Sc., and four years for B. Sc's.

1. Any matriculate can take—

(*a*) Part I of preliminary science. Physics, inorganic chemistry, after studying one year at a recognised laboratory.

(*b*) Part II of preliminary science. Biology, organic chemistry, physical chemistry, after studying two years at a recognised laboratory.

2. Any candidate who has passed the I. A. or I. Sc. in physics and inorganic chemistry will be excused Part I and can take Part II of Preliminary Science after one year.

B. Sc's will be excused such subjects as they have done before and can take the remaining subjects at the same time as the first M. B.

3. Colleges and laboratories should arrange that as far as possible *medical men* with proper qualifications act as *demonstrators* to preliminary science candidates.

4. The first M. B. should be taken after two years of study in a medical college after passing the Preliminary Science and be divided up into two parts which may be taken separately or together:—

(*a*) Part I of first M. B. to include anatomy and physiology.

(*b*) Part II of first M. B. to include pathology and pharmacology.

(Pathology and pharmacology are really advanced physiology.)

5. The second M. B. examination should be divided into two parts. Part I to be taken at the end of the first year of clinical studies (*i.e.*, fifth year for matriculates, fourth year for I. Sc's. and third year for B. Sc's.) and should comprise bacteriology, hygiene and medical jurisprudence.

6. Part II of the second M. B. to be taken at the end of the second year of clinical studies and should include medicine, surgery, midwifery and gynæcology.

RAHMAN, HAKIM MASIHUR.

The Calcutta University has been rendering immense service to the cause of education for a very long time, and its utility was further accentuated during the vice-chancellorship of Sir Asutosh Mookerjee,. But the work and jurisdiction of the University have grown to huge dimensions, and it is meet that the University Commission shall help the people of this country to make the Calcutta University an ideal university.

It is a growing desire of the educated community of the country that there should be more universities in India, and for that matter in Bengal, and so they have been satisfied that the wishes have been met to some extent by the establishment of the Mysore University, Patna University, the Hindu University and the proposed establishment of Dacca University, Rangoon University, Nagpur University, Aligarh University, and other universities in other centres of learning.

I believe the huge overcrowding in the Calcutta colleges which are chiefly attended by mofussil students can be easily relieved by setting up colleges in the different districts of Bengal, the control whereof may be vested in the Dacca University and Calcutta University. The great rush of students to Calcutta is subversive of discipline and detrimental to the creation of an atmosphere of pure study. Instead of contemplating the abolition of certain existing colleges in Bengal there ought to be an earnest effort on the part of Government, the municipalities, district boards, and the people to place them on firm foundations so that students may not be required to flock to Calcutta.

I beg to suggest that as the University of Calcutta is now proposing to found a degree for commerce and technology it is quite fit that there should be a degree for Tibb

RAHMAN, HAKIM MASIHUR—*contd.*

(Unani). The short history of Unani is as follows and I believe that it will be found interesting :—

Pythagoris, the Greek philosopher, may be said to be the originator of the system of Unani. It was Hippocrates later on who wrote a scientific treatise on Unani. Aristotle, Galen and Dioscorides made substantial contributions to Unani. During the rise of Islam in Damascus and subsequent foundation of the Baghdad University in the glorious time of Haroun-al-Raschid this system of learning got a good deal of impetus, and the translation into Arabic of Greek books on Unani was taken in hand. Abu-Bekr-ibne Zakariah Rhazi (Rhazes) was the first man who since 850 A.D. organised the various branches of this science into a consistent whole. The "Qanoon" of Sheikh-Reis Avicenna, who flourished in 980 A.D., is an authority on this science and this work was translated into Latin, French and English from 1593 to 1595.

Unani had an extensive sphere of influence as early as the twelfth century A.D. It was in the tenth or eleventh century that Abul Kasom Zaharavi of Zahara near Cordova in Spain wrote valuable books on Unani and many of them were translated into Latin. The portion on surgery had a recognised position in the then educated world. The book on Unani-Surgery was reprinted in Lucknow in 1912. Though the origin of Unani is Greek, it has been developed and organised by Arabic commentators. An effort has been made to revive the study of Unani by the formation of the All-India Ayurvedic and Tibbi Conference which first sat in 1910 at Delhi. There are only two schools of Unani at Delhi and Lucknow. Besides Hazeq-ul-mulk Hakim Azmal Khan of Delhi, Shafa-ul-mulk Abdur Rashid of Lucknow is one of the foremost Unani practitioners in India.

I further suggest that lessons ought to be imparted on Unani in every Madrassah in Bengal as that would enable the boys to have acquaintance with the laws of health and hygiene. The Muhammadan population of Bengal is very large. The students who pass out of madrassahs become known as maulvis and become the heads of their community. They, as a matter of course, wield a good deal of influence over the people, but poverty always stares them in the face for want of any suitable employment. So it is of the utmost importance that the study of Unani should be in the prescribed curriculum for the students of madrassahs, which will open a new vista of becoming a recognised profession.

In view of the fact that researches in oriental learning are being carried on vigorously in Bengal and that there has been built up in Calcutta a school of tropical medicine, it is quite proper and useful to the people that researches of Unani ought to be carried on under the auspices of the University and that a chair in Unani ought to be founded. It is a welcome sign of the times that the eminent Kavirajes and Hakims of India are making a mighty effort to revive and popularise the scientific studies of Ayurveda and Unani. The Reception Committee of the All-India Muhammadan Educational Conference held in Calcutta during Christmas have unanimously accepted the following resolution which was proposed by me :—

> That this Conference urges upon the Government of India the desirability of reviving and popularising the Unani system of medical education which has been so useful in dealing with the tropical diseases and of establishing Unani medical colleges at least in the presidency towns.

If the University were to take those studies within its fold two most important, useful and ancient branches of learning would be easily resuscitated. If a large number of our boys were to take degrees in Ayurveda and Unani, the great problem of unemployment among the middle classes would, to a great extent, be solved. It is a pity that such an ancient science as that of Unani has been most ruthlessly neglected so long. It is only the Government and the University that can introduce and encourage the study of Unani.

In this connection, I beg humbly to state that I have made an effort to popularise the study of Unani by compiling two books, on Unani, *viz.—Sahaj Hakimi Siksha* and *Hakimi Drabyagun Siksha* in Bengali. But I am sorry to state up till now my efforts have received scanty recognition. As soon as the teaching of Unani is introduced by the University, books on Unani will be translated into popular Bengali by Bengali writers well-versed in Urdu and Arabic.

Oral evidence.

CALVERT, Lt.-Col. J. T.

20th February 1918.

Time of transition.—The Calcutta University cannot be dissociated from its environment. The period is one of transition and therefore one of great difficulty. Bengal is ceasing to be a purely agricultural province and is becoming a commercial and industrial centre. The middle classes therefore are increasing in numbers, but cannot find sufficient employment. The University again is ceasing to be a purely examining body and is undertaking teaching functions. The social life of the students presents difficulties. Many are married with families and therefore need to make money as soon as possible. This is a great obstacle in the way of Indian students undertaking research. The joint-family system again accentuates the problem, as the clever boy has to support other members of the family. The expense of living in Calcutta also is very considerable and is still growing. This affects all sections of the community. The application of western ideals to Calcutta conditions therefore is very difficult. The witness deprecated drastic changes.

2. *Efficiency of the Medical College.*—The Calcutta college is as efficient as any in India. The witness said that he and his colleagues were fully alive to the defects of the college and hoped that with the removal of the financial stringency great improvements would be made. The staff should be increased and special departments should be created. At present the college staff is so busy with graduate work that it cannot cope with post-graduate work. There are at present 1,088 students in the college and the numbers have been doubled within the last few years.

3. *Position of the principal.*—The witness is principal, professor of medicine, undertakes consulting practice, and is responsible for the management of the hospital. The work is heavy, but under existing conditions it is difficult to see how the pressure can be relieved. Devolution of responsibility is difficult in India, as there must be a head of an institution whose decision is final. The principal again must teach; otherwise he will lose contact with the students. He must also administer the hospital as there are many points of discipline which can only be attended to effectively by the principal. The principal, however, might be relieved of the necessity of taking consulting practice by the payment of an adequate salary.

4. *Medical practice.*—The professors of anatomy, physiology, biology and chemistry are debarred from private practice. The professor of pathology may only take consulting practice. In regard to the other professorships connection with the Medical College is regarded as an advertisement for private practice and therefore attracts the best men.

5. *The preliminary medical sciences* such as chemistry, zoology and biology might be taught in the colleges. The Presidency College, for example, might conveniently teach zoology and open the classes to medical students. There are, however, certain difficulties in the way of such a proposal. The military students have to receive instruction and it would be difficult to provide for them in the colleges. These students might suitably be taught in a military centre such as Lahore. The scientists again are apt to insist on too high and too theoretical a standard.

6. *Relationship between the University and the medical colleges.*—The whole of the theoretical teaching is in accordance with the university courses which have hitherto been laid down by the professors. The Belgachia College has only just been started and, therefore, the witness was unable to say whether complications would arise.

7. *The standard of admission* is steadily being raised. Only I. Sc. or graduate candidates are now taken. There are about 150 admissions each year and 750 applicants. 25 per cent. of admissions must now be reserved for Musalmans, 18 places are given to Beharis and Ooriyas, and 6 places to Assamese. A B. Sc. Hindu, therefore may be replaced by an I. Sc Musalman. In consequence, selection does not depend solely on efficiency. Failed students are counted as additional students as they attend only the clinical demonstrations.

8. *Staff.*—It is advisable that the staff remain Government servants. So long as Government pays the money it must control the appointments. Direct appointment to posts would be difficult.

ROGERS, SIR LEONARD.

20th February 1918.

School of Tropical Medicine.—This is the first real attempt at post-graduate teaching in medicine in India. The principal of the Medical College desires the two institutions to be kept separate. The new school therefore will primarily conduct research and give post-graduate teaching in tropical medicine and hygiene. In this connection, the witness observed that Indians had not hitherto had favourable opportunities of joining in the work of medical research. Rs. 60,000 a year have been promised for five years by commercial associations for research. There will be five or six professors in the first instance. There will also be a hygiene institute with two additional professors. The witness thought that the teacher in hygiene should also lecture at the Medical College. There will also be courses for subordinates who will receive a diploma for the six months cold weather course and short practical courses for three months during the rainy season.

Research should be associated with teaching. Each professor in the proposed school will have liberal time for research. but he will do some teaching.

2. *Preliminary science subject.*—It is not necessary for a medical man to teach subjects such as zoology, biology and chemistry to medical students. Indeed, it might be better to have this preliminary scientific work conducted outside the Medical College.

3. *Medical appointments.*—The clinical appointments must be held by medical men. In reply to a question, the witness said that there would be difficulties in abandoning the service system. The leave problem would become acute. The service system enables leave vacancies to be filled satisfactorily and efficiently. These acting appointments also enable the authorities to test the capacity of medical officers for teaching work. Above all, the Medical College and the Indian Medical Service have always been connected with the result that recruitment to the service has been kept at a high standard and good teachers for the Medical College have been obtained.

4. *Modification in the present system.*—The Council of Professors should have greater powers and scope. At present, the council scarcely exists except in name. It is unwise also to attach the principalship of the college solely to the professorship of medicine. The principal should be given an adequate salary, but should be debarred even from consulting practice. The professors should also be real specialists in their own departments of study. This is scarcely possible under the present system under which the professors undertake general private practice. It would be better to pay adequate salaries and relieve professors from the necessity of taking any but consulting practice. Government will then have to employ other doctors to look after the needs of Government servants.

5. *The Senate.*—The witness had declined renomination to his membership of the Senate because he was unable to find time to attend senate meetings and listen to discussions in which he was not concerned. It would be wise therefore to modify the existing organisation of the University so that medical professors would have the opportunity of supervising medical teaching without having to be present at meetings when other matters were being discussed.

The *ex-officio* membership of the Senate is undesirable, in the case of those who live far from Calcutta and can rarely attend meetings.

When a professor of the Medical College, who is a member of the Senate of the University, goes on long leave the officer who officiates for him should automatically become a temporary member of the Senate in his place.

SUTHERLAND, Lt.-Col. D. W.

20th February 1918.

1. *The matriculation and intermediate work.*—The University should concentrate on higher education and leave all preparatory work to the Education Department. A matriculation examination should replace the present entrance examination, and be restricted to candidates who propose to undertake a university course of study for a degree. The witness was in favour of the system in force in Australia, with grammar schools and preparatory colleges to prepare students for the university matriculation examination and for business life; and with a teaching university—comprising the special university colleges (science, medical, arts, law, engineering, etc.) and denominational residential colleges—for degree work and tutorial instructions. The witness also desired to see the teaching of English in the pre-medical courses improved as many students entering the medical college are deficient in their knowledge of English, both as regards composition and spelling.

2. *Concentration under the University.*—In Lahore most of the colleges teach the subjects of too many faculties. Witness would prefer one college for each faculty—law, science, medicine, arts, oriental, engineering, etc.—the whole making up the university group, and all being under control of the University. The other affiliated colleges should be denominational, residential and tutorial colleges only. Witness also expressed his opinion that medical students in Lahore see little of university life, and was of opinion that they would benefit by mixing freely with the students of other faculties.

3. *Medical education of women.*—The witness was questioned in regard to the admission of students to the Lady Hardinge Medical College for Women at Delhi. He explained that there had been trouble over the qualifications requred for admission to the coll ge but that practically all the difficulties in regard to students from Calcutta, Allahabad, Bombay and Lahore had been removed and that only slight drawbacks remained in regard to Madras students.

4. *The Medical College, Lahore.*—The witness explained that in Lahore the Medical College for university students and the Medical School for sub-assistant surgeon students still remain associated, but separation of the school from the college is contemplated in the near future. There are 289 students in the college, and 342 in the school, or 631 medical students in all. The work of the principal is very heavy, for he is principal both of the college and school, and also professor of medicine and first physician to the hospital. In addition, he is medical superintendent of the hospital, but will be relieved of these extra duties after the end of the war. He was permitted to take consulting practice, but had very little leisure for it and had to charge relatively high fees to restrict the number of patients who sought his advice.

5. *Council of the College.*—There is a college council made up of the college professors which meets once a month during term time. The Council is a useful body which discusses and suggests improvements in the management and scope of the college. It is for the most part advisory to the principal, and does not deal with disciplinary cases as a routine, but was consulted by the principal on all matters during the college students' strike in 1914.

6. *Preliminary scientific work.*—In Lahore instruction in the preliminary sciences is imparted at the science colleges and students only enter the medical college after passing the F. Sc. Formerly, the teaching of science subjects took place at the Medical College, and after experience of both systems witness preferred the latter. He explained that the science colleges in Lahore were now overcrowded, and that with such a large number of B. Sc. students in the science colleges it was no longer possible to give medical considerations first place. He favoured the teaching of those science subjects by medical men rather than by pure science professors, for in that way attention could be concentrated on those portions of the science subject which would have a special value later to the medical student. He considered that sufficient ground for medical purposes was not covered in the F. Sc. course. He also believed that the science colleges in Lahore would welcome the "medical group" being again taken over by the medical college.

SUTHERLAND, Lt.-Col. D. W.—*contd.*—WILSON, Lt.-Col. R. P.

7. *Position of the Indian medical service in regard to the Medical College staff.*—The Indian medical service has been responsible for most of the medical training in India up-to-date, and any change which lessened the number of I. M. S. men on the staff might have unfavourable results. Recruitment for the Indian medical service would undoubtedly suffer if the medical chairs were thrown open to outside competition. The knowledge of the people and of their languages by the I. M. S. professors was of value, and the want of such knowledge might for a time at any rate affect the efficiency of professors recruited from outside India. The anatomy and physiology posts might, however, be thrown open without serious harm. Medical education also might be Imperial, and it would be an advantage to be able to transfer specialists from one province to another.

WILSON, Lt.-Col. R. P.

20th February 1918.

The Campbell Medical School.—The Campbell Medical School exists alongside the Medical College, but does not prepare for medical degrees. All lectures and teaching for medical students are now conducted in English. Students are prepared for the licentiateship of the State Medical Faculty of Bengal (L.S.M.F.), and it is hoped that shortly classes will be opened for students proceeding to the membership of the same licensing body (M. S. M. F.). This latter qualification entails a five years course of study. There is a possibility that the General Medical Council may not recognise the membership for registration. The witness was of the opinion that schools, such as the Campbell and Dacca, preparing students for something a little less exacting than the degree served a very useful purpose. There was no lack of scope for those who passed through the course. The successful students are employed by Government, district boards, municipalities, tea gardens, jute mills, the railways, etc.

2. *Courses.*—The course is one of four years and is divided into two parts, each of two years. A junior student takes chemistry and physics, anatomy, physiology, materia medica and pharmacy. The chemistry and physics are of an elementary order and are taught in relation to medical requirements. Chemistry and physics are taught at present in the Medical College, but the witness hoped that the Campbell School would soon have its own staff and laboratories for training in these two subjects. The final examination embraces surgery, including pathology, medicine (including pathology), midwifery and gynæcology, hygiene, and medical jurisprudence.

3. *Numbers and admission.*—The school will soon be brought up to the strength of 500 students. Last year there were 400 or 500 applicants for 120 vacancies. Students on admission are usually from seventeen to twenty years of age. The standard of admission is the matriculation examination of the Calcutta University, but a certain number of intermediates in science and arts apply. About 80 per cent. of the students pass their examinations and, therefore, there is not much wastage. When selected Campbell students were permitted to proceed for further medical studies to the Medical College Hospital for the M. B. degree, the results were good, and some obtained medals and prizes during the course of their training. This concession has now been removed as there is insufficient room at the Medical College.

4. *Women students.*—There are about 14 women students in this school at present most of whom are Indian Christians. Great concessions are given to female students. The standard of the admission qualification though low, is improving.

X. MUSALMANS, SPECIAL NEEDS OF.

General Memoranda.

AHSANULLAH, Khan Bahadur Maulvi.

The following is a summary of the measures which are calculated to secure for Muslims a proper share in the administration of the Calcutta University:

(*a*) The offices which are filled by nomination *viz.*, those of vice-chancellor, controller and university inspector should be held alternately by Hindus and Muslims.

(*b*) A reasonable proportion of the ministerial and higher appointments in the University should be thrown open to Muslims.

(*c*) Muhammadan interests should be duly represented on the staff, as also on the governing bodies of all schools and colleges affiliated to the University.

(*d*) There should be a separate board of studies for Bengali literature composed of Hindus and Musalmans in the proportion of two to one.

(*e*) A reasonable proportion of seats, whether filled by election or by nomination, should be fixed for Muslims.

(*f*) The Assistant Director of Public Instruction for Muhammadan education should be an *ex-officio* member of the Senate, the Syndicate and the Board of Accounts.

(*g*) The Muhammadan members on the Senate, the Syndicate and the Boards of Studies and Accounts should be elected by a Muhammadan electorate.

(*h*) A separate board of study should be established for the encouragement of Islamic studies.

All-India Muhammadan Educational Conference.

This Conference urges upon the Government the necessity of establishing a University on the lines of the universities which have been established in the industrial centres of Europe and other foreign countries.

2. Primary education should be made free and compulsory and a trial given in the presidency towns of India.

3. In consideration of the fact that able and competent men may be drawn to the profession of teaching and be induced to stick to their posts, this Conference urges upon Government the necessity of improving the status, pay and prospect of teachers in all grades of schools under the Education Department including those of the primary stage.

4. With a view to safeguard the interests of the Musalmans, it is desirable in the opinion of this Conference that in the Calcutta and the other Universities of India, adequate and effective representations of the Musalmans should be secured in the Senate, the Syndicate and other committees of the University as well as in the staff employed by the University, and this Conference is further of opinion that the election of Muhammadan fellows by the graduates and the educational officers should be effected by separate Muhammandan electorates and that the Indian University Act and Regulations may be modified accordingly.

5. Having regard to the educational interest of the Muhammadans, this Conference deems it necessary that the offices of vice-chancellor, controller of examinations and the inspector of colleges be alternately held by Muslim and non-Muslim.

6. This Conference recommends to Government that greater encouragement be given to the existing girls' schools by extending to them suitable financial aid and providing facilities to the Muslim community for establishing more girls' schools.

7. The courses of studies for girls should be different from those prescribed for boys and that in framing the syllabus and selecting text books the secretaries and managers of girls' schools should be consulted as far as practicable.

All-India Muhammadan Educational Conference—*contd.*

8. In view of the great difficulty experienced in securing suitable and competent female teachers for Muslim girls' schools this Conference is of opinion that training schools for Muslim lady teachers should be established by Government at all provincial head-quarters.

9. This Conference urges upon the Government of Bengal the necessity of expediting the establishment of the Muhammadan Arts College for which land has been acquired and that the scheme should not be postponed any longer.

10. Having regard to the educational interest of the Muhammadans this Conference deems it highly desirable that Muhammadans should be properly and adequately represented in the governing bodies of all colleges and high schools and that the provision for Muhammadan representation be a necessary condition to affiliation.

11. Having regard to the fact that the proposed Muhammadan College in Calcutta has not yet been established and that there exists a great difficulty for the students to get admission to the other existing colleges, this Conference urges upon the Government of Bengal the utmost necessity of reserving at least 50 per cent. seats in all the Government Colleges of Bengal and 30 per cent. seats in aided colleges affiliated to the Calcutta University for Muslim students in the I. A. and B. A. classes.

12. Having regard to the backwardness and poverty of the Muhammadans of the Bengal Presidency, this Conference considers that free studentships should be raised to 15 per cent. at least of the total number of free students and should be granted in all institutions including medical and professional colleges.

13. Having regard to the fact that the Arabic and Persian courses prescribed for the Calcutta Madrassah are superior to those prescribed for the Maulvi Fazil and Maulvi Alim Examinations, this Conference deems it desirable that facilities similar to those granted by the Punjab University be given by the Calcutta University to the students of oriental learning desirous of going in for its several examinations.

14. It is desirable that the Assistant Director of Public Instruction for Muhammadan education and the senior Muhammadan Professor of the Presidency College and senior Inspector of Schools should be *ex-officio* members of the Senate and the Syndicate.

15. This Conference urges upon the Government the necessity of opening a faculty of Islamic studies including Islamic history and literature.

16. Having regard to the fact that vernacular is now a compulsory subject for study in the University, this Conference urges upon the authorities concerned the desirability of including in each vernacular the books written by Muhammadan authors in the list of text-books in every university examination.

17. This Conference recommends that Urdu should be included in the list of second languages for the non-Urdu speaking boys and considers that a course in Urdu language for non-Urdu speaking students can be framed which may be equal in difficulty and may impart the same culture as the courses now prescribed for Arabic and Persian.

18. In view of the fact that Muhammadan students of the Calcutta University taking Arabic or Persian as their second languages find a great difficulty in the choice of their subjects for the I. A. and B. A. examinations for the want of affiliation of many colleges in those subjects, this Conference urges upon the Calcutta University the desirability of requiring the authorities of such colleges to appoint professors of Arabic or Persian or both as the case may be in their respective colleges.

19. This Conference urges upon the authorities of the Calcutta University the necessity of omitting from the I. A. and B. A. Persian courses the Arabic portions prescribed for those examinations.

20. This Conference urges upon the Government and the various universities the desirability of excluding all books containing passages which are likely to wound the religious feelings of the Musalmans from the lists of text-books.

21. In the interest and advancement of higher education in Eastern Bengal and Assam, this Conference urges upon the Government the desirability of giving effect to the scheme of the Dacca University and taking steps of establishing the proposed university without further delay.

Bengal Presidency Muhammadan Educational Association, Calcutta.

Presiding as the Calcutta University does over the higher education of millions of Muhammadans, it is necessary that the Muhammadans should be provided with an adequate representation on its controlling bodies and boards. The absence of such representation cannot but be highly detrimental to the best interests of Muhammadan education in Bengal, and incidents have amply shown that the present state of affairs has, in many cases, resulted in the neglect and even sacrifice of the claims of Muhammadans. Even the Government of India have, from time to time, felt the absence, and recognised the need of the Muhammadan element in the managing bodies and boards of the University of Calcutta. In their letter to the Dacca University Committee, the Government of India commented on the small part that has been assigned to the Muhammadans in the government of the University of Calcutta, and indicated a desire that the Muhammadans should have a voice in the management of the new University that is to be established at Dacca. And later on in the memorable circular letter dated the 3rd April 1913, in which the Government of India surveyed the whole problem of Muslim education, the fact was again recognised and attention was drawn to the very inadequate number of Muslim Fellows in the Senate of the University.

2. The Commissioners will be gratified to learn that higher education among the Muslims of Bengal has come up to a stage when no less than a hundred and even more Muhammadan graduates are being turned out every year by the University. A desire to be associated with the administration of affairs in their own Alma Mater, is one of the highest and most natural aspirations of these graduates. It will be greatly lowering their level of thought and activities if their natural and commendable aspirations in this matter are not satisfied, specially at this stage of Muhammadan education in Bengal.

3. It is significant that ever since the introduction of the elective system, not one single Muhammadan gentleman has been successful in being elected a fellow of the University, though some of the candidates were graduates of proved merit and ability. The right of voting is practically wholly confined to Hindu graduates who control and dominate the situation by virtue of sheer numbers, and who seldom, if ever, consent to record a vote in favour of a Muslim in preference to a non-Muslim candidate. The result is that in the matter of admission to the University through election, the doors of the University are wholly shut so far as the Muhammadans are concerned.

4. The Government of India in whom is vested the statutory power of nomination, extending to the extent of 80 fellows, in order to preserve the necessary equilibrium between the various interests, have not hitherto chosen to select any appreciable number of Muhammadan fellows. It will be an act of obvious and unmerited injustice to exclude the Musalmans from the deliberative and governing bodies of the University when qualified Muhammadans are available in growing numbers with the growth and development of higher education among Musalmans. Within the last decade, not a single Muhammadan has found a place in the Syndicate, though things were slightly better under the older regulations when one or two Muslims could occasionally find a place in the body.

5. While thanking the Government of India for their magnificent grant to the University for the residence of the students of the University Law College which enabled the University to erect the five-storied building fitly associated with the name of a renowned Viceroy, this Association sadly recalls the manner in which the interest of the Muslim students of that college have coolly been ignored by excluding the Muslim law students from that hostel. The Muslim students are above a hundred and sixty in that college, and although residential accommodation was sadly and urgently needed for them, the whole building was reserved for the Hindu students only. Recently, a new hostel has been opened at Mirzapore street where some law students have been allowed; but so long the claims of the Muslim students have strangely been brushed aside. This Association has reasons to believe that the claims of the Muslim students would not have been so flagrantly neglected, had the Muhammadans the slightest voice in the control of the university affairs.

6. In this connection the Association begs to refer to the Muhammadan mess at No. 2, Mirzapore street, in Calcutta which has apparently been started as a *solatium* to the

Bengal Presidency Muhammadan Educational Association, Calcutta—*cont'd.*

Muslim community for the total exclusion of its students from the University Law College hostel. A visit to the Mirzapore mess will disclose that far from being any *solatium*, the mess is a sad comment on the scant attention which Muslim interest has received at the hands of the university authorities. It must be extremely galling to the self-respect of the Muslim young men who have been huddled together in an uncomfortable and insanitary building and within the sight of the spacious and stately buildings which the Calcutta University has built for the use of the students of one community exclusively. This Association feels sure that the Muslim students would have received adequate and proper treatment with the Hindu students, had there been anything like adequate representation of the Muslim community on the governing bodies of the University.

7. Now that vernacular is a compulsory subject for studies in the University, it is desirable that the Bengali text-books should be more suitable and congenial to the Muhammadan students. As the matter stands at present, Bengali text-books, prescribed for the university examinations, are full of Hindu mythologies, stories and traditions often mixed with elaborate Sanskrit quotations. There are cases in which Muhammadan students suffer the misfortune of getting plucked in the vernacular only after having secured very creditable marks in other subjects. This Association has, again, no doubt that the difficulties of Muslim students with regard to their vernacular, arise from the way in which books of Muhammadan interests, or by Muhammadan authors, are unsympathetically treated, and never accepted as text-books in consequence of the almost total exclusion of Muhammadans from the councils of the university.

8. With the growth and extension of university work, the University has employed a large number of professors, and a very large number of assistants in its office. But there is not a single Muslim in the office, and only a very few in the tutorial staff. It is useless to contend that there has not been a single Muhammadan in the whole of the Presidency, competent enough for university office work, although quite a number of competent Muslims can be found, and have fitly been employed in other departments under the Government. For the sake of justice and fairness, if not for anything else, the Calcutta University—an embodiment of learning, culture and honesty, should have looked to the legitimate claims of the Muslim also.

9. It is not very clear on what principle the Fellows are selected and nominated. Academic attainments do not seem to be the guiding principle, probably on the ground that ability to manage the affairs of the University does not depend upon academic distinction. But this principle is hardly adhered to in nominating Fellows from the Muslim community. However, in more cases than one, fellowship has been bestowed by way of compliment. Exercise of influence through some unknown channels seems to be another determining factor. The absence of a fixed principle has often led to indiscrimination. It is very desirable that the statutory power of nomination should be exercised upon a fixed and intelligible principle.

10. This Association, therefore, most respectfully begs to approach the Commission with the prayer to remove the keenly felt grievances of the Muslim community in matters connected with the administration of the affairs of the Calcutta University, and to take into their consideration the proposals of reform set forth below :—

(*a*) The statutory powers of nomination should be exercised upon a fixed principle and that if the existing rules and regulations relating to the administration of the University do not allow such a course, they should be so amended and modified as to secure an adequate and effective representation of the Muhammadans in the Senate, the Syndicate and the different boards of studies to the extent of one-third of the total number of the nominated Fellows.

(*b*) The election of the Muslim Fellows in the above proportion should be through the medium of a special electorate composed of the following :—

(*a*) Muslim graduates registered and un-registered.

(*b*) Members of the councils—Supreme and Provincial.

(*c*) Barristers.

(*d*) Arabic and Persian professors.

(*e*) Principals and professors of Madrassahs.

The number of these educated men, it is submitted, will be sufficiently large to form an electorate.

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(c) The Bengali text-books containing stories and passages offensive to the Muslim sentiments, should not be included in the list of text-books; such books should be made suitable and congenial; and vernacular books written by Muslim authors should also be prescribed for university examinations, at any rate, as alternative courses for Muslim students.

(d) Greater facilities should be given to the advancement of oriental art and literature.

(e) There should be a faculty of Islamic studies under the Calcutta University with chairs in the subjects of Islamic history, literature and antiquities.

(f) Urdu should be included in the list of second languages for those students whose vernacular is not Urdu.

(g) The Arabic portion from the Persian courses prescribed for the I. A. & B. A. examinations should be omitted and these courses should be made to consist of one language only.

(h) The Muhammadans should be duly represented in the governing bodies of colleges and high schools and this should be made a condition precedent to affiliation.

(i) The Assistant Director of Public Instruction, the Senior Persian or Arabic Professor of the Presidency College, and the Senior Muhammadan Inspector of Schools should be *ex-officio* members of the Senate and the Syndicate.

(j) A due proportion of the total number of higher university appointments, examinerships, and ministerial appointments should be granted to qualified Muslims who are becoming available in growing number.

(k) The teaching staff should be strengthened. The pay and prospects of teachers and professors are at present too low to attract competent and qualified men to the profession of teaching. Early steps should be taken to raise their pay and widen their prospects.

(l) The education of Indian girls should be considered and their courses of studies determined from the Indian point of view. Having regard to the conditions of the Indian home life and oriental manners and customs, the system of education for Indian girls should be somewhat different from that of Indian boys. Their education and training should be more practical with reference to the position they will fill in social life. While aiming at culture and liberal education, the courses of study intended for Indian girls should consist of more good books on domestic economy, hygiene, sanitation, nursing—house keeping, home treatment, etc.

(i) A special syllabus for girls should be prepared dealing with subjects which will give them an idea of domestic requirements, and impress them with the responsibilities of the Indian home life. It should contain subjects of general interests, as well as rules of conduct with reference to religious practices daily observed in their home.

(ii) The courses of study should be so framed as to enable a girl to go up for the university education and examination, and there should be no bar in the way of her choosing the courses of study prescribed for Indian boys, as our country requires well-trained female doctors, teachers, midwives, etc.

(m) The final Madrassah passed candidates going in for the University examinations, should be exempted from appearing in the classics and the vernacular up to the B. A. as is the case with the Punjab University. Such candidates may also be exempted from attending lectures on those subjects.

(n) The system of writing the name of candidates on the answer paper should be abolished and only the roll number should be allowed.

(o) As the proposed Muhammadan College in Calcutta has not yet been established, and as students experience the greatest difficulty in gaining admission to other colleges, it is very desirable that at least 50 seats in all Government colleges and 30 seats in aided colleges affiliated to the Calcutta University, should be reserved for Muslim students in the I. A. and B. A. classes.

(p) In view of the fact that Muslim students taking Arabic or Persian as their second language, experience great difficulty in prosecuting their study in those

Bengal Presidency Muhammadan Educational Association, Calcutta—*contd.*—Chaudhury, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.

subjects for the I. A. and B. A. examinations for the want of affiliation of many colleges in these subjects, and also on account of non-appointment of Arabic and Persian professors in them, this Association urges upon the Commission and the Calcutta University the desirability of requiring the authorities of such colleges to appoint professors of Arabic, or Persian, or both as the case may be, in their respective colleges.

(*g*) In the interest and advancement of high education in Eastern Bengal and Assam, the scheme of the Dacca University should be carried out, and that steps should be taken to establish the proposed University without further delay.

Chaudhury, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.

The regulations should be revised with a view to secure for the Muhammadans a proper share in the administration of the Calcutta University.

2. A half of the Indian members on the Senate should be Muhammadans of whom one-fourth should be nominated and three-fourths elected by special electorates formed on as broad a franchise as possible.

3. A half of the Indian members on the Syndicate should be Muhammadans to be elected by the Muhammadan members of the Senate. The same proportion of representation to be maintained on the Board of Accounts also. On other Boards not including Arabic, Persian and Urdu, adequate provision should be made for Muhammadan representation.

4. The Assistant Director of Public Instruction for Muhammadan Education should be an *ex-officio* member of the Syndicate, the Senate and the Board of Accounts.

5. Muhammadan interests should be fairly represented on the governing bodies of all colleges affiliated to the University.

6. The office of vice-chancellor and controller and university inspector should be filled alternately by Hindus and Muhammadans.

7. A half of the ministerial and higher appointments in the University should be reserved for Muhammadans.

8. A fair number of Muhammadans should be appointed as examiners and paper setters.

9. Roll-numbers should be used instead of the names of candidates on answer papers.

10. College authorities should be asked to make arrangements for the re-admission of students who fail in their examinations for reasons other than incapacity.

11. All Government colleges should have separate Muslim hostels attached to them.

12. The university authorities should impress on the authorities of private colleges the necessity for providing hostel accommodation for Muslims.

13. That in all government colleges 30 per cent. of the total number of seats shall be reserved for Muslim students seeking admission, provided, however, that when these seats are not filled before a particular date every year, they may be opened to students of other communities. A similar provision should be made as regards other colleges affiliated to the University.

14. There should be a college for Muhammadans in Calcutta.

15. A chair for Islamic history should be created.

16. The F. I., B. I. and M. I. courses should be recognised by the Calcutta University.

17. The Calcutta Madrassah and the Presidency College should be affiliated to the University in Arabic and Persian up to the M. A. Standard.

18. Provision for the teaching of Arabic, Persian and Urdu in all the affiliated colleges should be insisted on.

19. University professors for Arabic, Persian and Urdu should be appointed in the Government senior Madrassahs.

20. The standard of proficiency required of students of Arabic and Persian should be the same as that of the students of the other classical languages.

Chaudhury, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.—*contd.*—Musalmans of Assam.

21. Religious instruction for Muhammadan boys should form a part of the university course.

22. There should be a separate Board for Bengali literature composed of equal number of Hindus and Muhammadans for selecting suitable Bengali text-books for all the university examinations.

23. Books in Bengali suited to Muslim taste should be prescribed as alternative text-books.

24. When a question bearing on mythology is set in the examination paper there should be an alternative question of a general character.

25. There should be a separate section in the annual report of the University dealing with the progress of Muhammadan education in the different courses of the University.

26. The jurisdiction of the proposed Dacca University should not be confined to the town of Dacca proper.

Musalmans of Assam.

We, the undersigned, on behalf of the Muslims of Assam, offer you a heartly welcome to this historic town and beg to tender our sincere thanks for allowing us an opportunity to represent the needs of the Muhammadan population of the province, in matters of university education. The people of Assam have not been able to benefit, to its fullest extent, of the highest collegiate education, for a variety of reasons, principal amongst which are the distance of the university centre, the prohibitive cost of Calcutta and other Bengal cities, and the comparatively short period, in which English education has been introduced in the major portion of the province. The Muhammadans, therefore, are of opinion that there should be a separate university for Assam which will greatly facilitate the diffusion of higher training and tackle the different tasks of local needs and requirements.

2. That for the safeguard of the Muslim interests and for the fair representation of the community in the constitution of the University, provision should be made that at least one-third of the seats therein, be reserved for the Muslims in the Senate, Syndicate and other controlling bodies and that the members thereof be elected from a Muslim electorate.

3. Pending the creation of a separate university, the Muslims of the province keenly feel the want of their representation in the Senate and Syndicate of the Calcutta University, wherein the Muslim element is not adequately represented. They also find that Muhammadan interest is not properly represented in the governing-bodies of the Assam colleges and therefore submit that the consitution of the present governing-bodies of the Assam colleges should be so modified as to offer the inclusion of at least one non-official Muhammadan member therein.

4. The Muhammadans greatly feel that the subjects Arabic and Persian are not affiliated to the honours degree standard in both the existing colleges, as they are the subjects which Muslims naturally prefer for their honour's study. Provision to teach these subjects up to the M. A. standard ought to be made in our colleges, so that the Muslim students be not compelled to proceed to Calcutta or Dacca for the highest training in their own subjects.

5. To encourage and facilitate the Muhammadans taking to collegiate education in greater numbers, a sufficient number of seats in colleges and adequate hostel accommodation should be provided in the Assam colleges. For the present we advocate that 30 and 50 per cent. of the seats be made available for Muhammadan students in the Cotton and Murarichand Colleges, respectively.

6. There has been a general impression amongst the Muhammadans that the appearance of the name of the student on the answer book of the different examination acts to the prejudice of the Muhammadan candidate. This matter was ventilated lately with facts and figures in a Calcutta Muslim paper. The Muslims of the province are of opinion that the roll number alone should appear in the answer books—and not the name of the student.

Musalmans of Assam—*contd.*—Musalmans of Berhampur.

7. Owing to the multiplicity of languages which Muslim students have to learn, they cannot pay enough attention to Arabic or Persian which they take up as a second language and acquire only a smattering of them and profit very little from them in after life. But if they are allowed to take up Urdu as an alternative language they will be sure to derive more benefit in their practical concerns, and, to the Assamese students Urdu is as difficult as Arabic or Persian while it is equally useful to them both as literature and for their religious needs. We, therefore, submit that Urdu should be placed on the same footing as Arabic and Persian in the University curricula.

8. In order to develope the study of classical languages and in view of the strong inclination to Islamic studies amongst the Muhammadans, we are of opinion that the University should include a faculty of oriental learning and recognise the senior Madrassahs and award suitable degrees to their alumni.

9. With regard to the difficult question of the medium of instruction and examination in schools, we beg to submit that the present system has worked well, and we do not think that the conditions of the province are such as to justify the introduction of vernaculars as media of instruction in the top classes of the high schools.

10. In conclusion, we hope this representation of ours will meet your careful and favourable consideration. We again thank you for affording us this opportunity to represent the Muslim's view-point on university education.

SYED M. SAADULLA.

MUHAMMAD BERKHT MUJMODAR.

MAHOMED TAFAZZUL HUSSAIN HAZARIKA.

Musalmans of Berhampur.

Suitable hostel accommodation should be provided for the ever growing number of Muhammadan boys in the Krishnath College and the hostel should be placed under paid superintendents, and in other places where there is no hostel accommodation the same should be provided.

2. The College should be immediately affiliated in Arabic and Persian up to the B. A. standard and there should be at least two professors for teaching these subjects. It is submitted that in spite of the fact that all the Muhammadan boys did not know of the recent affiliation of the College in Arabic and Persian, there are fourteen boys in the first year and two in the second year taking up Persian and one in the first year and two in the second year who have taken up Arabic.

3. Every school and college should have more than one well-paid efficient Muhammadan teacher and professor for teaching Arabic, Persian and Urdu. The present paucity of Muhammadan students in very many institutions is due to the absence of facilities for teaching Arabic and Persian.

4. Every school and college should have some Muhammadan teachers on the staff who, if not available locally, should be taken from other places and if this cannot be enforced, a well-equipped school and college should be established for Muhammadans, Berhampur or at Murshidabad, or the Nawab Bahadur's institution should be converted into a Muhammadan institution to supply the wants of the Muhammadans.

5. Muhammadans should have a sufficient number of seats in the Senate, Syndicate, examining boards and the text-book committees.

6. An adequate number of Muhammadans should also be appointed as university examiners, and text-books written by Muhammadans should be introduced in the schools.

7. That in the university examinations only the roll numbers of the students should be given and not the names.

8. That in the Krishnath College only four Mohsin stipends are granted to Muhammadan students and one or two stipends are awarded by the Honourable the Maharajah of Kasimbazar who also maintains 80 Hindu free students. Considering the percentage of the

Muhammadan population which is 52, it is humbly prayed that more Mohsin stipends should be granted to the college and to the schools. The Commission may also kindly ask the Maharajah to generously see his way to raise his number of grants of Muhammadan free studentships to at least 20, and the Honourable Nawab Bahadur of Murshidabad similarly to help the poor and deserving Muhammadan students of the college and the schools.

9. That lady teachers be appointed to teach Muhammadan girls under the "house-to-house visitation system."

10. That schools and colleges should have one hour recess every Friday to enable Muhammadan students to say their Jumma prayer.

Musalmans of Calcutta.

The peculiar difficulties and disabilities which arise in the education of the Musalmans of Bengal on account of their special circumstances, have made it necessary that the special features of their case should be fully placed before the Commission and should receive separate consideration from them. The very fact that not even 10 *per cent.* of those who receive university education are Muhammadans, although the Musalmans form 52·2 *per cent.* of the population of the Presidency, would lead to the irresistible conclusion that there is something wrong in the system which calls for immediate remedy. The question of university education we beg to submit, cannot be properly tackled without regard to the requirements of the people for whose benefit it is intended.

2. For a long time the reconstruction of a time-worn and patch-work system which has outgrown its utility has been demanded. We beg to point out that no scheme of reconstruction can be useful or beneficial unless it recognises the existence of conflicting ideals and conflicting interests in almost every sphere of life—social, political, and religious—among the different sections of the population. The principle and practice of education which might have proved beneficial in a country with uniform people, uniform interests and uniform ideals, must necessarily be modified to suit the special circumstances that exist in this country. We would urge upon you the necessity of giving, in any scheme of constructive educational reform that may have to be drawn, the fullest consideration to the defects and disabilities of every section of the people as they exist at present, without assuming an ideal state of things that ought to have existed.

3. When Persian was the court language of Bengal the Muhammadans enjoyed their share in the administration of the Presidency and held the highest positions of trust and responsibility. But, on the introduction of English, our Hindu brethren had no difficulty in substituting one foreign language for another, but unfortunately the Musalmans did not adapt themselves to the changed conditions and continued their education on the old traditional lines through the medium of their classical languages, and thus failed to derive full benefit from the educational facilities provided by the Government. We submit that the position is in no way affected, even if it were conceded that to some extent the Musalmans themselves are responsible for their present disadvantages and difficulties The backward condition of the Musalmans attracted the special attention of Sir William Hunter's Commission of 1883, and in Chapter IX, Section 2 of the report they made special recommendations for the spread of primary and secondary education among the Muhammadans. The need for special provision for university education of Muhammadans did not exist at the time of the Commission as the number of Muhammadan students seeking collegiate education was very small, only 32 Muhammadans having passed the university entrance examination in 1881. The position of higher education of the Muhammadans of Bengal to-day is the same as was the condition of their primary and secondary education in the days of Sir William Hunter's Commission and we would request you to pay the same consideration to the question of university education as the Commission of 1883 did to that of primary and secondary education of the community.

4. Apart from any consideration of sectarian and separate interests, it is obvious that a university, such as we have in Calcutta, cannot possibly meet the educational

Musalmans of Calcutta—*contd.*

requirements of 45½ millions people. It is not possible for a single university to exercise efficient control over 62 colleges and about 800 high schools scattered all over the Presidency and to satisfactorily discharge the duties and responsibilities of maintaining discipline among more than 20,000 students in colleges and about 2 lakhs and 20 thousand students in schools. Nor is it possible for a single university to satisfy the legitimate needs and aspirations of such a large number of people considering the fact that centralisation of authority, as we have in Calcutta, means the over-concentration of the educational efforts of the Presidency at a single place and the underestimation of the value and possibilities of the development of other places as centres of education. We beg to emphasise, the utmost desirability of establishing teaching universities at Calcutta and Dacca and other places such as Chittagong, Rajshahi, Berhampur and Gauhati. It may not be possible to establish at once teaching universities at places other than Calcutta and Dacca, and it may be necessary to have an organisation, similar to these of modern Indian universities, to control the mofussil colleges and to conduct examinations and award degrees. We would suggest that this organisation should be independent of the teaching universities of Dacca and Calcutta. If, however, a teaching university can act also as a federal university for mofussil colleges, without prejudicing its legitimate duties as a teaching university, we would strongly urge that all the colleges in Eastern Bengal be affiliated to Dacca and not to the Calcutta University. The Muhammadans of Bengal agreed to a non-federal teaching university at Dacca as they were given to understand that it is prejudicial to the interests of sound education to combine in one and the same body the functions of a teaching and a federal university. If the Commission do not share this opinion, the Muhammadans of Bengal may reasonably demand that the Dacca University should be a teaching as well as a federal university for the colleges in Eastern Bengal. If, with a view to make Calcutta the intellectual capital of India, you limit the jurisdiction of the Dacca University to a few square miles in Ramna and entrust education of every type above the primary stage to the Calcutta University and thus expand the jurisdiction of that university more widely than it is at present, you will make the difficult task still more difficult. Such an arrangement, we need scarcely say, would be looked upon by the Mussalmans as a great misfortune. We would suggest as the only possible solution that the mofussil colleges should not be under either of the teaching universities at Calcutta and Dacca, but should be controlled by a separate federal university which may be called the "University of Bengal." On academical grounds also this arrangement appears to be the best that can be devised. Consequently there will be at present three universities in the Presidency—a teaching university in Calcutta, a teaching and residential university at Dacca and the federal university of Bengal, the head-quarters of which on account of easy communication should be in Calcutta but altogether separate from the offices of the Calcutta University.

5. The representation of the Muhammadans in the Calcutta University is at present most inadequate (there being only seven fellows out of a total of 110) and our request is that the number of Muhammadans should be at least 30 per cent. of the total.

The Muhammadan members of the Senate may be elected partly by the Muhammadan registered graduates, partly by the Muhammadan educational officers, partly by the Muhammadan members of the governing bodies of colleges and hostels, and the rest may be nominated by the Governor. We consider it a matter of the greatest importance that Muhammadan members of the Senate should elect their own representatives to the Syndicate, the different faculties, committees and boards created in the constitution in the same proportion as the members of the Senate, except only in the bodies composed of experts alone.

6. We think a sufficient number of qualified Muhammadans would be available to carry on with others the administrative duties of the University as members of the Senate, the Syndicate, the different faculities and boards. It is a common complaint that Muhammadans get no chance of paid posts at the disposal of the Calcutta University. Out of 70 lecturers in the Law College not even one is a Muhammadan, though qualified Muhammadans to fill such posts are not wanting. The position of the Muhammadans in respect of post-graduate studies, university examinations and university offices is hardly better. Only 2 of the university lecturers are Muhammadans and out of 895 examiners for the

Musalmans of Calcutta—*contd.*

different university examinations held last year only 9 were Muhammadans, besides 44 examiners of Arabic, Persian, and Urdu and there is not a single Muhammadan clerk in any of the offices of the Calcutta University. It is no wonder that this is attributed to the dominating influence of one particular community in the controlling bodies of the University. Such a deplorable state of things, we need scarcely say, should be remedied without delay and we would strongly urge that an adequate number of Muhammadans be appointed members of the boards that make the different university appointments.

7. On account of the presence of several colleges in Calcutta some of which have long traditions behind them, it would not be possible to have a uni-college university in Calcutta, and the present colleges will necessarily remain, though in a modified form, as separate entities in the scheme of reorganisation of the teaching university in Calcutta. If you consider it desirable that the colleges in Calcutta should be retained as distinct entities, we would request you to keep the position of the Presidency College just as that of the other colleges. It will serve to maintain a high standard of efficiency for other colleges to follow. The maintenance of the Presidency College is of very great importance to the Muhammadans as it is the only college in the whole Presidency which provides the highest teaching in Arabic, Persian and Urdu prescribed by the University. If, however, its utility be questioned and its abolition recommended we would strongly urge that it should be transformed into the proposed Muhammadan college. The Government has pledged itself to give the Muhammadans a first-grade college, and it would certainly be convenient to transform an existing college into a Muhammadan college, handing over to the University both the recurring and non-recurring grants intended for the proposed Muhammadan college.

8. With the object of providing social life in the college and to create an *esprit de corps* it is desirable that hostels should be attached to the colleges. As it may be difficult to enforce such a rule in the case of Muhammadan students, our suggestion is that the Baker and Elliot hostels be attached to the Madrassah and the proposed Muhammadan college and other colleges be permitted to take in students under conditions similar to those observed in lodging houses in Cambridge and Oxford. A managing committee of Muhammadan gentlemen may also be associated with these hostels with privileges to send representatives to the Senate. It is also desirable that the superintendents of the hostels should be college and university lecturers and that resident maulvis should be appointed as deans of colleges to impart religious instruction and conduct prayers in accordance with their religious beliefs.

9. For the University of Bengal we beg to suggest that the proportion mentioned above may be maintained and that Muhammadans residing in mofussil towns and taking an interest in education be appointed members of the Senate. As the Senate of the University of Bengal is not likely to meet as frequently as the Senate of the Calcutta University it will not be difficult for persons residing in mofussil towns to attend its meetings.

From the note presented by the Muhammadan gentlemen of Dacca we understand that they approve of the idea of a uni-college teaching university, provided that a Muslim hostel with a strong tutorial staff and an efficient residential secondary school are given in the place of the proposed Muhammadan college. As the University of Dacca was promised by Lord Hardinge to the Musalmans of Eastern Bengal as some compensation for the loss of the province they may justly claim that Muhammadans should have more than 50 per cent. of the seats in the senate of that university and should have a dominant voice in the Syndicate and other bodies, including the Board of Appointment.

10. The conduct of the various examinations being practically in the hands of one community there has arisen a feeling of distrust among the Muhammadans who think that they do not always receive just and fair treatment. This feeling has led to a persistent demand that no name should appear on the answer books of the examinees. Resolutions to this effect have been repeatedly passed by both the Provincial and the All-India Muhammadan Educational Conferences. There seems to be no reason why under the present system of examinations an examiner should know the caste and creed of the examinee. Special attention should be paid to this matter.

11. We beg to draw your attention to the difficulty on account of the multiplicity of languages to which a Muhammadan student is put. A Muhammadan boy in Bengal is expected to know five languages—English, the court language, Arabic, the language of their religion, Persian, the language of Islamic culture, Urdu, the *lingua franca* of

Musalmans of Calcutta—*contd.*

Muhammadans and Bengali, the vernacular of the bulk of the population. This has engaged the attention of the Muhammadan leaders and they have come to the conclusion that though we cannot drop the study of any one of the five languages it is not necessary for every individual boy to study all of them. The Muhammadan boy whose mother-tongue is Bengali should receive his primary education in Bengali and should study a classical language, Arabic, Persian or Urdu. We do not think that the study of any one of the above mentioned languages necessarily makes one familiar with any one of the remaining two. They stand to each other in the same relation as English, French and German. We can confidently assert that Urdu for a Bengali-speaking boy is even more difficult than Persian is for a Urdu-speaking boy.

In urging the recognition of Urdu as an alternative to Persian or Arabic we have also taken into consideration the fact that a large number of students do not go beyond the matriculation stage and to them a little knowledge of Urdu, which the matriculation student usually acquires, will be more useful than a little knowledge of either Persian or Arabic.

12. We do not propose in this memorandum to enter into a discussion regarding the school-leaving and the matriculation examinations. But we would draw the attention of the Commission to the following points :—

(*a*) If the University is to continue conducting the matriculation examination, we would urge that each of the three universities, Calcutta, Dacca and Bengal, should be authorised to conduct separate examinations in their respective jurisdictions, and this arrangement will remove the complaint that one university cannot effectively carry on the examination of 18,000 candidates.

(*b*) In case it may be necessary to entrust the examination to one board, we would urge that this board should not be a Government department and it should have representatives of all the universities and a few non-official educationists representing different communities, including Muhammadans, missionaries and others.

13. Before expressing our opinion on the complicated question of the medium of instruction we should like to say that it is not altogether an academic question and before giving your judgment on this point it is absolutely necessary that the political controversies not only in Bengal, but in every other province in India during the last forty years, should be carefully studied. The Muhammadans are convinced that the loss they have sustained in their legitimate share in the administration of the country was due to their apathy to English education and they support the recommendations of the Simla Conference on secondary education held in May 1917. Any change in the existing system will be detrimental to the advancement of English education, the importance of which has been so lately realised by the Musalmans.

The introduction of Bengali as the medium of instruction and examination in the top classes of high schools and the universities will increase, rather than lighten, the burden of a Muhammadan boy, and will surely weaken his knowledge of English. As a Hindu boy improves his Bengali and enlarges his vocabulary by the study of Sanskrit, he will not experience much difficulty in understanding Sanskritised Bengali, which must necessarily be used in higher classes, and the Sanskrit technical terms. Of all the Indian languages. Arabic and Sanskrit are the only languages which are adapted like Latin to frame derivative words from the same root for the different phases of the same thing. The technical terms in Bengali must necessarily be framed after the rules of Sanskrit conjugation and not after the rules of Latin conjugation, and hence it is idle to assert that the technical terms will be English. The Muhammadan boy who will study Urdu, Persian or Arabic in place of Sanskrit, will not be in a position to follow the lectures in Bengali.

14. We beg to draw your attention to the controversy on the curriculum of studies in the Calcutta Madrassah raised at the time of the reform scheme of the Dacca Madrassah. It was rightly decided on that occasion that the Calcutta Madrassah should continue to teach the old orthodox course of studies called Dars-i-Nizamia. It is, however, desirable that the University should recognise its teaching and award suitable degrees. We have two-fold reasons for such recommendations :—

(i) We believe that a student who is not satisfied with the university degree of master of arts and who wishes to be a sound scholar in Arabic literature and learning

Musalmans of Calcutta—*contd.*

must have his ground-work in an institution like the Calcutta Madrassah. It will be in the interest of universities if students reading for the M.A. degree in Arabic be permitted to attend lectures of the learned *Maulanas* of the Madrassah.

(ii) We require efficient trained teachers for secondary schools and colleges, and the best method for the training of teachers of Arabic, Persian and Urdu will be to give a course of English lessons followed by a course of training to the students who have completed their education in the Madrassahs.

It would be superfluous to say that the prescribing of the courses of studies and the conduct of examinations in the madrassahs should aways be in the hands of the Muhammadans and no change should be introduced without their consent.

15. Resolutions embodying the following points were passed from time to time by the Muhammadan Educational Conferences and other bodies, and we beg to draw the attention of the Commission to them:—

(*a*) The Assistant Director for Muhammadan Education should be an *ex-officio* member of the Senate and the Syndicate.

(*b*) Every aided college should have at least one Muhammadan on its governing body and it should be a necessary condition of any grant that may be given to it.

(*c*) It is desirable that Muhammadans should be a pointed from time to time as vice-chancellor, inspector of colleges and controller of examinations.

(*d*) The Board of Studies of Bengali should have an adequate number of Muhammadans on it.

(*e*) No university examination should be held on Fridays between 12 and 2 P.M. in order to enable Muhammadans to attend their Jumma prayers.

(*f*) At least 50 *per cent.* of seats in Government colleges and 30 *per cent.* in aided colleges should be reserved for Muhammadans.

(*g*) Free studentships for Muhammadans should be allowed in colleges on the same principle as in schools.

(*h*) In order to attract well qualified Muhammadans the scale of remuneration should be brought to the same level as in other departments.

In conclusion, we beg to thank you for granting us an opportunity of representing the feelings and grievances of our co-religionists and for kindly giving us a patient hearing.

AMINUR RAHMAN.

ABDUL KARIM.

A. K. FAZLUL HUQ.

ASHRAF ALI.

ABUL KASEM.

MIRZA SHUJAAT ALI.

MD. SULTAN ALUM.

AMINUL ISLAM.

GOLAM HASAIN ARIFF.

ABDUR RAHIM BUKSH ELAHI.

MIRZA AHMED ALI.

UNSADDAULA.

MOINUDDIN MIRZA.

ABDUL LATIF AHMED.

A. F. M. ABDUR RAHMAN.

NASIR HUSAIN KHYAL.

Musalmans of Chittagong.

Muhammadans have no representative in the Syndicate and Senate of the Calcutta University. The number of Muhammadan fellows is negligible. We desire that all the Muhammadan graduates of three years' standing should be eligible for a fellowship of the Calcutta University, that half the number of members of the Syndicate and the Senate should be Muhammadans and that the Vice-Chancellor should be appointed alternately from among Muhammadans and Hindus as the Muhammadans form 52 per cent. of the population of Bengal.

2. As Muhammadans form three-fourths of the population of Chittagong, it is very reasonable that at least half the chemistry seats in the Chittagong College in the I. A., I. Sc., B. Sc. classes should be reserved for Muhammadan students.

3. Half the seats in all classes of the Chittagong College should be reserved for Muhammadans.

4. A *pucca*, commodious, well-arranged hostel for Muhammadan college students at Chittagong should be built in the course of twelve months like the one in existence for the Hindus.

5. Provision for Arabic and Persian should be made in every Government and aided school.

6. There is a dearth of Muhammadans in the inspecting, teaching and clerical staff of the Education Department. We wish half of the above staffs to be Muhammadans, specially in the university clerical staff.

7. The Chittagong Madrassah is preparing its students according to the reformed scheme.

By next year, a good number of students will be ready to appear at the madrassah final examination which will be conducted on the lines of the Dacca University scheme. As this scheme has not been put into effect these candidates will be penalised unless the Dacca University is established quickly.

We therefore consider it absolutely necessary that the Dacca University should be established within the next twelve months. We, Muhammadans, consider it one of our foremost grievances.

8. We want a residential university with a Muhammadan college in Dacca. The establishment of a Muslim University with a Muhammadan college complete in itself would serve Muhammadan purposes fully and give a great impetus to Muhammadan education.

9. It is a matter of great regret that Cox's Bazar Sub-Division, forming half of the Chittagong District where Muhammadans form about 85 per cent. of its residents should be without a high English school. Government being the biggest proprietor of landed interests at Cox's Bazar where *khas Mehal* yields a revenue of about four-and-a-half lakhs, it is very desirable that Government should convert the present provincialised middle English school into a provincialised high English school as promised by the Government after the partition of Bengal; at the time of provincialising the local middle English school at Cox's Bazar. This was prayed for in paragraph 5 of the address presented to His Excellency as follows:—

> "As one of the particular grievances, we most respectfully beg to draw your Excellency's attention to the fact that although Cox's Bazar Sub-Division forms half the portion of this district and is situated at a distance of about 90 miles from the town and notwithstanding the said sub-division yields a very considerable portion of the revenue of the district, it has been thrown to the cold shade of neglect. It has not yet been blessed with even a high English school providing the residents thereof with the most prominent and distinctive benefit of British rule. Suffice it to say that the expenditure incurred by Government for the up-keep of a middle English school at Cox's Bazar is quite disproportionate to the benefit derived therefrom and this will go to meet more than half the expense necessary for the establishment of a high English school. Our humble request therefore is that your Excellency would bless the said sub-division with a long cherished high English school."

Musalmans of Chittagong—*contd.*—Musalmans of Comilla.

10. We feel much aggrieved and our susceptibilities are wounded at the fact that the Government Muslim High English School at Chittagong where all the scholars are Muslim has no provision for religious instruction.

We desire that religious instruction should be provided in such schools.

11. We think that Urdu should be made a second language as an alternative to Persian and Arabic. In Bengali text-books quotations from Sanskrit should be avoided.

12. The Muhammadans of this district being poor, more scholarships, specially for students studying medicine and engineering, should be allotted to this district. This was prayed for in the address referred to above in the following terms :—

> "We therefore most earnestly appeal to your Excellency for fuller recognition of Musalman claims by increasing special scholarships for the deserving poor Musalman students of which two of the value of at least Rs. 30 each should be set apart for those who intend to study medicine and engineering from this district, in consideration of the number of Musalmans of this place, and the dearth of Musalman students in these lines owing to the heavy expenses incurred therein."

13. In schools free-studentships should be eight per cent. of the total number of scholars therein as before, instead of eight per cent. of the number of Muhammadan boys in the school.

14. The schools and colleges should be closed for one hour and-a-half on Fridays on account of Jumma prayer because an hour is not sufficient.

15. The candidates should not be asked to write their names on their answer books for a university examination, but they should be asked to give their roll numbers only.

16. Frequent change of text-books is not desirable in the interest of poor boys.

17. Musalmans should be adequately represented in the governing body of the Chittagong College. At least two non-official Musalman members should be appointed for the purpose.

18. A model middle English school for Muslim girls should be established at Chittagong with special care for the *purdah* system making provision for religious instruction, for sewing, nursing and culinary teaching.

MUBARAK ALI.
JALALUDDIN AHMAD.
ABDUL HALIM.
MUSTOFIZUR RAHMAN KHAN.
IMDAD ALI.
SYED MAQBUL HUSAIN.
ABDUS SATTAR,
NAZIR AHMAD CHAUDHARI.

Musalmans of Commilla.

Adequate representation of Musalmans both on the Senate and the Syndicate.

Musalmans have absolutely no chance of election by the registered graduates. The number of Musalmans should be fixed—There should be at least 40 per cent. of the Musalmans in those bodies elected by Muslim graduates, otherwise it will ever remain a Hindu University.

2. The Vice-Chancellor of the University should be selected alternately from each of the two communities (Hindu and Muslim) like the member of the Executive Council.

3. (*a*) There should be a sufficient number of Muslim examiners.

(*b*) The practice of putting down names on examination papers should be abolished and that of roll numbers substituted in place thereof.

4. There should be adequate representation of Musalmans on the clerical establishment of all colleges and schools under the University nd also on the University itself.

Musalmans of Comilla—*contd.*—Musalmans of Midnapore.

5. Musalmans should have free access to all the different courses and classes of the University. Some time ago, a Muslim graduate with honours in Sanskrit wanted to attend university lectures in Sanskrit for the M. A., but he was most insultingly refused.

6. The Arabic portion of the matriculation Persian course has been abolished, but the anomaly has been retained in the I. A. and B A. courses. There should either be Arabic or Persian (pure and simple) prescribed and not a mixture of the two in the same course.

7. At present there are some colleges and high English schools where no provision is made for teaching Arabic and Persian. Adequate provision for the teaching of Arabic and Persian should be made a condition for the recognition of any college or school, and the defect should be removed in those already recognised.

8. Difficulty of admission of Muslim students into colleges is keenly felt by the community. At least half the seats should be reserved for Musalmans and after their demands are satisfied, the vacancies, if any, may be filled up by the Hindus.

9. Urdu should be adopted as a subject alternative to Sanskrit, Arabic or Persian.

10. Adequate hostel accommodation should be provided in all centres of collegiate education under a Muslim professor, preferably one who is not a professor of Arabic or Persian.

11. No Government grant should be given to a college which does not provide for two seats for Musalmans on its governing body.

12. Special facilities for Friday prayers should be provided for Musalmans in all colleges and schools in Bengal.

13. The above recommendations apply to the Calcutta University and we request that similar arrangements be made for Dacca.

14. The Dacca University should be residential within the Municipal limits of the Dacca town and federal so far as the Eastern Bengal districts are concerned.

Musalmans of Midnapore.

The educational needs of the Muhammadans of Midnapore and a few suggestions for their removal.

(*a*) The necessity of a first-grade college is keenly felt. It will be most advantageous if the existing college be raised to the B. A. standard. The reasons being :—

(i) The Muhammadans being poor, they are unable to meet the high expenses of living etc., in Calcutta.

(ii) The Muhammadans are not desirous of sending their boys to Calcutta where the atmosphere is unwholesome.

(*b*) The governing body of the college should be an independent body and to safeguard Muhammadan interests a sufficient proportion—not less than one-third of the members—should be Muhammadans and they should be elected by the Muhammadan population of the District.

(*c*) Many of the Muhammadan pupils have to abandon their higher studies owing to their dire poverty. Some assistance should be given by the provision of :—

(i) A sufficient number of free-studentships and half free-studentship in the college.

(ii) A larger number of scholarships either from the Mohsin fund or from a special Government fund.

(*d*) A suitable hostel similar to that of the existing Hindu hostel should be established without further delay for the residence of the Muhammadan boys. Until the construction of the proposed hostel a sufficient number of seats in the existing hostel may be set apart for Muhammadan students and a separate kitchen given them.

(*e*) There should be at least two Muhammadans on the professorial staff in the college besides the professor of Arabic and Persian as a sufficient number of Muhammadan M. A's are available.

(*f*) Urdu should be included as one of the second languages as an alternative to Arabic and Persian.

(*g*) The salary of the Persian professor should in no case be lower than that of the Sanskrit professor.

(*h*) The influence of the Hindus is so predominant here that it will be very much to the interest of the public and specially to the Muhammadans, if the entire management of the college is taken away from the Municipality and transferred to the Government.

KABIRUDDIN AHMAD.
SAJJADUL KARIM SUHRAWARDY.
AZIZUL ALUM.
ALI REZA.
SYED AMJAD ALI.
SYED ALI AHMAD.
S. A. MEHDI.
MAHMOOD SUHRAWARDY

Musalmans of Rajshahi.

The inhabitants of the Rajshahi division find difficulties in obtaining admission and also accommodation in other colleges. It is, therefore, desirable that a first-grade college teaching all honours subjects for the B. A. and all subjects in M. A. should be maintained at Rajshahi. At present no provision is made for honours in Persian, Arabic and political economy and no provision is made for M. A. in any subject. It is our request therefore that these wants should be removed and the college should be fully equipped.

2. At present the number of students allowed to read in the college is 750 and considering the large population, we strongly urge that the number be increased to 1,200, of which 40 per cent. at least should be reserved for Muhammadans. The percentage of Muhammadans in this district is about 80 per cent. and our request for reserving 40 per cent. is very reasonable.

3. The hostel accommodation for Muhammadans is very poor, and it is not excessive for Hindus as well. There are only 30 seats for Muhammadans and 125 for Hindus. The other students live in messes which are sometimes attached and sometimes unattached, and in our opinion they are very unhealthy and not suitable for students to live in; they are damp, ill-ventilated, situated in undesirable quarters and without proper supervision. We consider it essential in the interests of true education that adequate hostel accommodation may be provided in every college to the extent of 60 per cent. of the total number. It is a great mistake to think of the expansion of colleges without simultaneously thinking of hostel accommodation. We venture to think that private donations will also be forthcoming for the erection of hostels and for the maintenance of colleges.

4. The people of India, and particularly the Muhammadans, are desirous that their boys should receive religious instruction and the majority of Muhammdans even go so far as to think that learning without the provision of religious instruction is no education at all. On account of the policy of non-interference of Government in matters of religion, it is impracticable to provide religious instruction in Government institutions but they can very well be provided in hostels and for this also we impress the necessity for hostel accommodation.

5. Hostels should all be under the immediate supervision of professors. Muhammadan hostels unfortunately materially suffer from the want of Muhammadans on the teaching staff of colleges. There is an erroneous idea that Muhammadans are fit to teach nothing but Arabic and Persian. Consequently, Muhammadans are not appointed to teach subjects other than Persian and Arabic. We do not believe that suitable professors for other subjects are not available. If the desire to appoint them be not wanting, Muhammadan professors will be forthcoming. Until suitable Muhammadans of ability and character are appointed to the teaching staffs of colleges, the management of Muhammadan hostels will never be satisfactory.

Musalmans of Rajshahi—*contd.*

6. Whatever we have said above about hostels and Muhammadans on the teaching staffs with regard to colleges is true, with greater force, in connection with the secondary schools.

7. At present the number of Muhammadans on the Senate is very low. It is 7 per cent. though the Muhammadans form 52 per cent. of the population in Bengal. The Congress itself is willing to give the Muhammadans representation to the extent of 40 per cent. and we wish that half the Indian members on the Senate should be Muhammadans.

8. There is no Muhammadan on the Syndicate and consequently the interests or Muhammadans suffer. Some months ago the cases of two candidates were published in the papers of Bengal regarding the allotment of marks in the B. A. examination. The request of a Hindu candidate was granted by the Syndicate, while that of a Muhammadan of better merit was rejected. The Syndicate is an executive body and the Muhammadan may reasonably claim to have their fair share in the administration of the University.

9. At present the Muhammadans, on account of their want of representation and of many incidents brought to notice, have no confidence in the Calcutta University and therefore we desire that the Rajshahi College should be affiliated to the Dacca University which, as we are given to understand by Government, will specially look after the interests of Muhammadans. This university was promised to the deputation of Muhammadans of Eastern Bengal as a compensation for the loss of the separate province, and we are confident that this university will look after Muhammadan interests; we, therefore, press that all colleges in Eastern Bengal should be affiliated to the Dacca University. This will also relieve pressure on the Calcutta University which is at present unwieldy.

10. In the Bengal Muhammadan Educational Conference, as well as in the all-India Muhammadan Educational Conference, resolutions have repeatedly been passed that the candidates should not be required to write their names on the answer-books, we do not see why this request should not be met with as the system of not writing the names is in existence in some other universities as well.

11. The post of head clerk is a very important one and in certain cases it is more important than the principalship. At present there is no Muhammadan head clerk in any college nor in the office of the Director or of the Inspector. We earnestly request that some of the head clerkships should be given to Muhammadans.

12. The number of free scholars in Government and aided schools used to be 8 per cent. of the total number of students. This number has recently been diminished and we pray that it should be increased again to the original number.

13. In Rajshahi there exists only a junior madrassah and the students find great inconvenience to go to Dacca and Chittagong. We, therefore, request that a senior madrassah of a reformed type should be established here so that there may be provision for secular education along with religious instruction.

14. In the Bengali text-books now used in the B. A. course there are quotations from Sanskrit literature. Muhammadans who are ignorant of Sanskrit find it impossible to read and understand these. We strongly urge that no books containing Sanskrit quotations or demanding a knowledge of Sanskrit authors should be prescribed. Our further grievance is that in the present Bengali text-books Hindu heroes are introduced. We strongly urge that Bengali books written by Muhammadans should also be introduced.

15. The majority of Muhammadans in Bengal use Bengali as their mother tongue and to them the knowledge of Urdu is more useful and imparts a better training than Arabic and Persian. We, therefore, strongly request that Urdu should be recognised as a second language and may be put on the same footing as Arabic and Persian.

16. The chief occupation of the inhabitants of this division, and particularly of the Muhammadans, is agriculture and it is essentially necessary that regular institutions for teaching agriculture on improved methods should be established and included in the University.

17. For the thorough organisation of hostels and teaching students the correct pronunciation of English we think it very desirable that the principal and at least two professors should be Englishmen with experience of teaching in public schools.

18. The tuition fee of the Rajshahi College has recently been enhanced to Rs. 6. This has affected the Muhammadan students very much. We therefore pray that the original fee of Rs. 4 may be restored.

XI. POST-GRADUATE INSTRUCTION.

General Memoranda.

Dacca College, Dacca.

Post-graduate teaching sanctioned by the University has been established in Dacca for a great many years. The college is affiliated for M.A. teaching in English; and in economics, history, philosophy, physics and chemistry, university lecturers have been appointed. At the present time there are 114 students reading for M.A. or M.Sc. degrees, and 12 professors who have been recognised by the University as being sufficiently highly qualified to be responsible for these advanced studies. Further in order to render post-graduate teaching more efficient a number of other lecturers are also taking part. The distribution of the students among the different subjects and the qualifications of the various professors can be seen from the following table :—

*Particulars of M.A. and M.Sc. classes, Dacca College.**

Subject.	Class.	No. of students.	Professors teaching the subject.	No. of lectures given.
English	Fifth year	29	(1) Babu Rakhal Das Ghosh, M.A. (Cal.)	200
	Sixth year	19	(2) Babu Satishchandra De, M.A. (Cal.)	200
			(3) Babu Satyendra Nath Bhadra, M.A. (Cal.).	200
Economics	Fifth year	10	(1) Mr. W. A. J. Archbold, M.A., LL.B.	50
	Sixth year	11	(2) Mr. T. T. Williams, B.A. (Cantab.)	125
History	Fifth year	8	(1) Mr. W. A. J. Archbold, M.A., LL.B.	50
	Sixth year	11	(2) Babu Aswini Kumar Mukherji, M.A. (Cal.).	250
Philosophy	Fifth year	8	(1) Mr. G. H. Langley, M.A. (Lond.)	100
	Sixth year	..	....	..
Physics	Fifth year	6	(1) Mr. W. A. Jenkins, M.Sc. (Sheffield)	125
	Sixth year	3		
	Fifth year	2	(1) Rai Bhupatinath Das Bahadur, M.A. (Cal.), B.Sc. (Lond.).	175
	Sixth year	7	(2) Mr. B. K. Singh, M.A. (Cantab.)	150

In addition to the above the following university lecturers are on leave and would be taking part in post-graduate teaching under normal conditions :—

Subject.	Class.	Professors teaching subject.
Chemistry	Fifth year Sixth year	Dr. E. R. Watson, D.Sc. (Lond.), M.A. (Cantab.).
History	Fifth year Sixth year	Mr. R. B. Ramsbotham, M.A. (Oxon.).
English	Fifth year Sixth year	Mr. Egerton Smith, M.A. (Leeds).

Further, not only has post-graduate teaching been carried on for this period, but the results of university examinations indicate that such teaching has been as successful in Dacca as in the University or elsewhere.

* This table does not include the lecturers mentioned above who are also assisting with post-graduate teaching.

Dacca College, Dacca—*contd.*

The following table gives the M.A. and M.Sc. results for the last five years :—

Result of the M.A. and M.Sc. examinations for the last five years.

Year.	Subject.	No. sent up.	No. passed.	Details of success.
1912	English	4	2	Second class . . 1 Third class . . 1
	History	2	1	Third class . . 1
	Economics	3	1	Third class . . 1
	Chemistry	11	6	First class . . 1 Second class . . 3 Third class . . 2
1913	English	13	4	Second class . . 3 Third class . . 1
	History	2	1	First class . . 1*
	Economics	2	2	Second class . . 1 Third class . . 1
	Chemistry	13		Second class . . 6 Third class . . 2
1914	English	10	4	Second class . . 2 Third class . . 2
	History	6	5	First class . . 2 Second class . . 1 Third class . . 2
	Economics	..	..	....
	Chemistry	4	3	Second class . . 2 Third class . . 1
1915	English	10	3	Third class . . 3
	History	7	3	First class . . 1† Third class . . 2
	Economics	11	3	Third class . . 3
	Chemistry	9	4	First class . . 1 Second class . . 3

* Second in the University.
† Babu Surendra Nath Sen second in the University. Now a lecturer in the Calcutta University.

Dacca College, Dacca—*contd.*

Result of the M.A. and M.Sc. examinations for the last five years—contd.

Year.	Subject.	No. sent up.	No. passed.	Details of success.
1916	English	8	5	Second class . . 2 Third class . . 3
	History	6	4	First class . . 1* Third class . 3
	Economics	10	3	First class . . 1† Third class . . 2
	Chemistry	5	5	First class . . 2 Second class . . 2 Third class . . 1
	Physics	4	3	Second class . . 2 Third class . . 1

* First in the University.
† Second in the University.

This year of the six students who were sent up for the M.Sc. examination in physics, three gained the first three places in the first division and all passed.

In this connection it might be well to point out that the successes of Dacca College students (with the exception of those in English, in which subject the college is affiliated) are not indicated by the official lists of examination results as these appear in the Gazette. They are there recorded as "university students" so that it is impossible for those who are not acquainted with them personally, to distinguish students who have been taught at Dacca from those who have received their teaching at the University in Calcutta.‡

Owing to the fact that Dacca has been a centre for higher teaching for many years, and on the assumption that it would continue to be such a centre, there has been considerable expenditure on its library and laboratories. For the reading of advanced students the library is now thoroughly furnished in all subjects in which post-graduate teaching is being given, and the science laboratories are as well equipped as any in Bengal.

Before the operation of the new regulations for post-graduate teaching in Calcutta, university lecturers of the college were *ex-officio* examiners, and they thus had a share in determining the character and standard of the examinations. The effect of these regulations has been to exclude them from all bodies which control courses of studies and examinations, and thus to compel them to accept the decisions of the Calcutta members without being able to urge their own opinions.

There are—

(*a*) no representatives from Dacca on the council of post-graduate teaching in arts or science,

(*b*) no representatives from Dacca on either of the executive committees of the councils; and

(*c*) only two co-opted § members on the boards of higher studies. Further, as co-opted members, they are not internal examiners, since internal examiners in any subject are such members of the Board of Higher Studies as have been appointed teachers under section 3.

Now this is obviously unjust in view of the constitution of the councils and boards of higher studies in Calcutta. There all professors and lecturers engaged in giving

‡ "Dacca College" should be mentioned against their names in the University list.
§ According to Section 9 (*c*) it is possible for each board of higher studies to co-opt two members from those engaged in post-graduate teaching in the subject concerned in places outside Calcutta; nevertheless only two professors from Dacca have been co-opted.

Dacca College, Dacca—*contd.*

post-graduate instruction, whether attached to the University or to any other institution, are members *ex-officio* both of their councils and of the boards of higher studies for their respective subjects. Consequently we find that upon every board there are one or two junior lecturers, who have only recently taken their degrees in the University, and these gentlemen are also members of the Council, either of arts or of science. The effect of this upon mofussil colleges can be seen from the fact that a student of Dacca College who gained the M. A. degree with first class honours in history in 1915, was appointed a university lecturer in history in 1917. This student has therefore become a member *ex-officio* of the Council of Arts and of the Board of Higher Studies in History. His professor, a very distinguished student of the University and a gentleman with sixteen years' teaching experience, is not a member of either of these bodies. Thus it happens that pupils may begin to legislate for their former teachers not because they are recognised as being men of greater ability or power, but simply by the accident that they happen to teach in Calcutta and not elsewhere. This is true in spite of the fact that university lecturers in the mofussil have the same technical recognition as those in Calcutta.

It may be argued in reply to this that the councils and boards are constituted to control post-graduate teaching in Calcutta, and that for this reason it is necessary for the members to be drawn from those engaged in university teaching in that place. So long, however, as there are centres for higher teaching outside Calcutta and the pupils at these centres are obliged to sit for Calcutta University examinations, the councils and boards must control post-graduate teaching outside as well as in Calcutta. It is, therefore, unjust that those responsible for higher teaching outside Calcutta should not be adequately represented on the boards.

Sir Asutosh Mookerjee in a letter to the Director of Public Instruction, has recognised that the interests of mofussil colleges are affected, and has promised to make it a matter of personal concern that in the question of examinership, etc., the claims of these colleges shall not be overlooked. But while conscious that it is not the purpose of those responsible for the scheme to be unjust to lecturers engaged in post-graduate teaching outside Calcutta, we maintain that the official status of the latter should be such as to secure that their views with regard to the character of courses of study and examinations be considered. This is the more necessary because of the character of these studies. The nature of post-graduate teaching should not be inflexibly determined by fixed syllabuses but should give scope for the special interests and individuality of the teacher, and this is impossible where the teacher is entirely excluded from the control of the examination of his pupils.

Under existing conditions the guarantee that higher education outside Calcutta shall be fairly considered is entirely dependent on the willingness of the Calcutta members of the boards of higher studies to elect lecturers from mofussil colleges ; and the good will of any Calcutta gentleman, who like Sir Asutosh Mukherjee, may promise to interest himself in such colleges. We feel sure that as soon as this situation is clearly grasped it will be seen to be most undesirable.

In order, as far as possible, to remedy these anomalies we make the following proposals :—

(i) That since all university lecturers in Calcutta are members *ex-officio* of the Council either of arts or of science, and also members of the boards of higher studies for their respective subjects, university lecturers (and teachers in affiliated subjects) in colleges outside Calcutta should also be members *ex-officio* of these bodies.

(ii) That there be at least two representatives from Dacca on each of the executive committees.

(iii) That section 31 of the regulations be amended as follows :—

"The internal examiners in any subject shall be such of the members of the Board of Higher Studies in that subject as have been appointed teachers under sections 3 and *25 together with teachers in affiliated subjects in colleges outside Calcutta*"

instead of :

"..... under section 3"

which is the present reading.

Dacca College, Dacca—*contd.*—JAMES, H. R

Should it be considered impossible to give effect to some such proposals as those indicated above, we are of opinion that, since the efficiency of post-graduate teaching in Dacca and other colleges outside Calcutta will be very seriously prejudiced, it would be better to reconsider the whole scheme of post-graduate instruction in these colleges.

W. A. J. ARCHBOLD.
T. T. WILLIAMS.
G. H. LANGLEY.
W. A. JENKINS
B. N. DAS.
RAKHAL DAS GHOSH.
SATISCHANDRA DE.
SATYENDRANATH BHADRA.
ASWINI KUMAR MUKHERJI.
B. K. SINGH.

JAMES, H. R.

I have the honour to enclose herewith a copy of a memorandum which I have written on the report of the Committee appointed early in 1917 to consider arrangements for post-graduate teaching in the University of Calcutta. I had hoped that there was still time for this memorandum (and a supplementary note on certain points where misconception is possible) to be taken into account before M.A. and M.Sc. affiliation of colleges was actually discontinued, and with this view I sent copies a week ago to the registrar of the University. I now learn, by the last arrived mail, that the changes recommended by the Committee have actually been introduced this session. It might seem, therefore, useless now to put forward reasons, even if in themselves weighty and valid, against this very important change in the status of colleges, and I have written again to the registrar withdrawing the request for the consideration of my memorandum and note, and asking only that they may be recorded.

It seems, however, still possible that the whole question of post-graduate study may shortly be re-opened when the Commission, which is to deal with the University of Calcutta, is holding its sittings in the cold weather. If that should be the case, I would very earnestly request that my memorandum may be placed officially before the Commission along with the report of the Committee.

Memorandum on the recommendations of the Committee appointed to consider arrangement for post-graduate teaching in the University of Calcutta.

Some considerations of importance appear to have been left out of account by the Committee, or, at all events, not to have been sufficiently regarded.

1. *Influence of the organisation of M.A. studies at Presidency College.*—The figures tabulated on page 5 of the report (paragraphs 8 and 9) show quite plainly that since the new regulations for the M.A. and M.Sc. degrees took effect in 1908 there have been *two* considerable organisations for M.A. and M.Sc. study under the University, that at Presidency College (for mathematics and 9 other subjects, 4 M.A. and 5 M.Sc.), and that directly under the University in "university classes" (for mathematics and 8 other M.A. subjects). Good work has been done at the Scottish Churches College in Philosophy but it has been confined to that one subject, and the number of students is given in the table as 23. The number of M.A. and M.Sc students at Presidency College is 326: the

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number in the university classes is 1,258. It must be recognised that, although 1,258 is a much larger number than 326, a total of 326 would be a considerable body of *post-graduate* students under any university, and that the interests of such a body of students require careful consideration.

The Presidency College classes.—The Presidency College organisation was also first in the field. Its classes, as now organised, date from 1908, and have been carried on without any complete break in continuity from a much earlier date, in fact from the time when definite M.A. *studies* were first instituted under Calcutta University (that is 1885). There is thus attaching to the Presidency College classes that very valuable thing, an *academic tradition.*

The organisation of the Presidency College classes had not then to be brought into being for the first time in 1908: it already existed. It has been carefully modified and improved since. It is based on the principles of the fitness of the student for the course of studies undertaken; careful individual training; and such a limitation of numbers as the conservation of these two principles renders necessary.

The university classes.—The formation of classes conducted directly by the University came about as described in paragraph 6 of the committee's report, except that the last sentence of the paragraph needs qualification in the light of the account given in what has preceded of the Presidency College classes. The university classes are a perfectly legitimate development under the Universities Act of 1904,s though it is not probable that the extent and character of the development were foreeen by the framers of the new regulations in 1906. The problem of what to do with B.A. graduates who wished to take up an M.A. course of study and could not be received into the Presidency College and Scottish Churches College classes began to command anxious attention in 1910. Although the *necessity* for providing higher teaching for B.A.'s and B.Sc.'s *irrespective of their fitness* for it was not recognised at Presidency College, the efforts of the University to meet the growing demand for M.A. instruction were sympathetically viewed, and in the two years 1911-12 and 1912-13 very substantial help (*vide* report page 4, paragraph 6) was given, voluntarily and gratuitously, by members of the Presidency College staff, who delivered courses of lectures to the University classes apart from their work at Presidency College. The rapid increase of numbers was also no doubt fostered by the relatively low fees charged by the University. Numbers did grow very rapidly, and in September 1913 had reached a total of 1,005 (in 1912 it had been 520). At the same time the university organisation was acknowledged to be defective. It was confined to lecture-courses; and the class room accommodation was also most inadequate. The dangers latent in the new development led to a representation to the Syndicate from the members of the Presidency College staff engaged in post-graduate M.A. teaching, calling attention to the weaker aspects of the statement placed before the Senate by the Vice-Chancellor on September the 27th, 1913. For the university arrangements were based on large numbers, low fees, and a disregard of standards, the very failings which had brought about the movement for university reform in 1901; and it was now in relation to the advanced stage of university work, where quality is of even more importance than in relation to under-graduate work. The representation has been so far effective that the points to which attention was drawn have since been taken up practically by the University, and, as principles, find place in the committee's report, page 13, paragraph 21 (*a*) and (*b*). It is now proposed to introduce to a large extent the features which were at that time distinctive of the Presidency College organisation. Further in March 1914, I took the opportunity to sketch the ideal for which we were working at Presidency College in a note on "Aims and Methods of Post-graduate Study in Calcutta University," also submitted to the Syndicate. This was after the scheme for supporting the university M.A. classes with a strengthened staff financed mainly from fees was brought before the Senate and accepted.

The Presidency College classes under the new scheme.—It is now, in point of fact, proposed that the university classes shall in future conform more nearly to the model of the Presidency College classes. It is not desired to claim any special merit on this account. It merely means that the Presidency College classes have all along been organised on sound lines, so that any organisation on sound lines will correspond more or less closely to the organisation in working at Presidency College. *It is*, however, a reason for being

JAMES, H. R.—*contd.*

slow to do away with the separate organisation of the Presidency College classes altogether. The separate Presidency College organisation has at all events done the University this service. It first exemplified practically, and then, through its staff, contended critically, for principles which the Committee now advise (page 13) should be adopted, though they certainly were not universally admitted in 1913-14. That the organisation now proposed for post-graduate study under the University is on these lines is a great gain.

Should it, however, be one of the results that the carefully developed organisation at Presidency College must itself vanish? It is a somewhat paradoxical result. Two organisations have existed under Calcutta University for M.A. studies: one confessedly defective; the other not called in question as wanting. Is it reasonable to abolish the organisation proved by experience to be satisfactory, merely to secure the externals of uniform system? Will the centralised university system be all gain? Are there no distinctive features of the collegiate organisation worth preserving?

2. *The position of the Colleges.*—The Indian universities are really a distinct type with features peculiarly their own; they do not conform exactly to any other type, neither to the "teaching and resident" type, nor to the "federal." They have a mixed constitution, because, while there are many colleges under the University, they are neither all in different places, nor all in one and the same place: the colleges are *partly* resident and the University is *partly* a teaching university. The Indian universities are *sui generis*. A great deal that is written about "teaching and resident" universities belongs in strictness to the University which has no colleges, or which is itself organised as a single college. Now under Calcutta University *the academic life* must be lived mainly in the colleges. That has been so from the first and it is likely to continue to be so mainly in the future. Some of the colleges are at a great distance from Calcutta. In Calcutta some of the colleges are so large as to form of themselves units of academic life as large as is convenient. A thousand students may associate together in a common life, but hardly eight thousand. For the continuance and development of college life it is expedient to strengthen the individuality of the colleges.

If this is granted, it follows that to cut off the colleges from any hope of keeping within the collegiate body their own advanced (that is, M.A. and M.Sc.) students is to limit disadvantageously their chances of development, while to take away M.A. and M.Sc. students from colleges that have them now is to do them injury. Leaving aside for the moment all questions of other colleges, I can speak with assurance of Presidency College. To take away, as is proposed, the M.A. and M.Sc. affiliation of Presidency College will be to affect the life of the institution as a collegiate and academic body most prejudicially. I can speak with confidence here, because I have watched over the life of the college for a period of nine years continuously, and I know what I am writing about. The University may decree this injury to Presidency College, and Government—it is a Government college—may acquiesce in the injury. But I am bound at least to point out, what is so clear to me, that if this is done, the college will be seriousiy injured both in prestige, and in its usefulness as a place of education.

But the same argument applies to other colleges which now have some measure of post-graduate organisation: and, more than this, it applies to any college which might in the future have attained to this status. It is true that at the present time the only other college in Calcutta affected is the Scottish Churches College. And from the Scottish Churches College has been recorded the strong and vigorous protest *laid* before the Senate on June the 9th last.

3. *The main educational aim.*—How deep and serious that injury is may be understood only through clear sighted appreciation of what is involved in the often repeated assertion that the main educational aim is "character." I refrain from any attempt to develope the argument: it is too well known. I will only emphasise one contention, which will, I believe, be found to stand more firmly the more critically it is examined. The education of character under Calcutta Universsty must be sought through the colleges. Anything which tends to narrow the life or diminish the prestige of the college *is working against the main educational aim.*

4. *Possibility of an alternative scheme.*—If the solution of the narrower problem of instruction proposed by the Committee were the only practicable solution, it might

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possibly be right to acquiesce in it. This is nowhere proved in the report. It is merely asserted without proof on page 6, paragraph 12, that it is "impossible to suggest arrangements whereby colleges could institute a form of inter-collegiate lectures which would meet present requirements." It is, on the contrary, at least conceivable that a scheme of inter-collegiate lectures would be found workable, at all events if the stronger colleges received financial assistance for the purpose.

5. "*Post-graduate*" *study.*—There is here a point of quite a different character urgently requiring to be considered. What is "post-graduate" study? The Committee was appointed to "consider arrangements for post-graduate teaching" and Calcutta University, not without reason, calls classes attended by students who have graduated B.A. and B.Sc. "post-graduate." Yet we are faced with this anomaly. At other Universities "post-graduate" students are select and few. Rarely at British universities will their number exceed a score, far less reach a hundred. Post-graduate students under Calcutta University number (by the figures given on page 5 of the report) one thousand six hundred and seven. Either then the students of the Calcutta University are extraordinarily more advanced than the students of Oxford, Cambridge, London, Edinburgh, Manchester, and other British universities, old and new, or "post-graduate," when applied to Calcutta M.A. and M.Sc. classes, has somehow changed the quality of its connotation. It appears at any rate to be true that the Calcutta master's degree is definitely tending to become the ordinary goal of the student's ambition.

6. *The interest of the University.*—It may most truly be affirmed that the interest of the colleges in these matters is the interest of the University, and the interest of the University is the interest of the colleges. That the Presidency College and the Scottish Churches College suffer actual loss and hurt if their M.A. and M.Sc. affiliation is taken away, has been represented plainly in what precedes, and that other colleges suffer loss potentially. This cannot be to the true interest of the University. There is, further, grave reason to fear that the recommendations of the Committee do not lead infallibly to the advancement of sound education, but may rather, unless great care is taken, involve a return to old errors against which the reform movement of 1901 was directed. On these grounds it is hoped that some weight may be given to the considerations set forth in this note.

SUPPLEMENTARY NOTE ON CERTAIN POINTS WHERE MISCONCEPTION IS POSSIBLE.

1. *The M.A. regulation of 1858, page 1.*—The original statute regulating the award of the M.A. degree ran:—"Every Bachelor of Arts who has obtained Honours in Arts shall be entitled to the degree of Master of Arts *without any further examination or fee.*" The scheme for a separate M.A. examination was proposed in 1881 and took effect in 1885. It is difficult to reconcile the wording of the original rule with the account of the four distinct periods in the history of the higher teaching of Calcutta University on page 1 of the report.

2. *The divorce of teaching from examination, page 3.*—Under the new regulations of 1906 it is laid down (in the chapter on examinations) that the university lecturers in an M.A. or M.Sc. subject * * * * * (?). I have myself for several years served as convener of such a board for the M.A. examination in English which consisted entirely of teachers. This board of M.A. lecturers with the assistance of one or more external examiners, set the papers in the subject. It is therefore with a feeling of bewilderment that I have read paragraph 4 (*a*), page 3 of the report, which appears to represent the complete divorce of teaching from examination as an evil now to be remedied in respect of post-graduate teaching. This divorce is true to some extent still of the B.A., B.Sc. and intermediate examinations, but is not true of the M.A. and M.Sc. examinations.

3. Candidates coming up for examination without adequate instruction, paragraph 6, page 4:—It needs to be pointed out that this statement applies only to university and private candidates and not at all to candidates from the Presidency and Scottish Churches Colleges.

4. *Harmful Rivalry, paragraph 12, page 6.*—There has been nothing which could properly be called rivalry between the colleges and the University since July 1914; and the only rivalry which can be said to have existed before July 1914 arose solely out of the menace to M.A. and M.Sc. teaching at Presidency College apprehended as latent

in the statement laid before the Senate by Sir Asutosh Mukherjee as Vice-Chancellor in September 1913. Whether that apprehension was well founded or not, is most fairly tested by the event. There is truly enough an end to rivalry when one of the rivals is conveniently put out of the way and his possessions appropriated by the other. The only sound plea here is Dr. Urquhart's "that there is room for all," the very plea which was used in the Senate early in 1914 when it was proposed to extend very considerably the existing university classes. Enquiry would show that there has been willingness on the part of the governing body of Presidency College to co-operate with the University in arrangements for M.A. teaching and that there has been practical co-operation in the teaching of the subject political philosophy and political economy.

5. *Boards of studies, paragraph 18, page 10.*—It is quite true that the constitution of the existing boards of studies is unsatisfactory in the extreme. But it would be a doubtful remedy to constitute boards of studies exclusively or almost exclusively of university lecturers and professors who regulated the M.A. and M.Sc. examinations in isolation from the less advanced teaching which leads up to the M.A. and M. Sc. courses. It is necessary that the successive stages of study and examination should be carefully co-ordinated; and it is essential therefore to have on the Board of Studies in a subject persons actively engaged in teaching B.A. and B.Sc. and intermediate classes.

PEAKE, C. W.

I feel strongly that the University should concentrate in one centre the whole of its higher teaching, that is the teaching above the present B.A or B.Sc. stage. This seems to be necessary for many reasons: particularly from the point of view of economy, and from the fact that it will be impossible to give the necessary latitude to professors in teaching their subjects unless the examination is mainly conducted by the professors themselves. I need hardly point out to the Commission that a university is not likely to get the best out of its professors unless they are in a position to give special attention to those branches of their subjects in which they are exceptionally interested and in which they may be conducting research. Some recognition in the examination must obviously be given to those branches of a subject which have thus received exceptional treatment and this seems to me to require that all students should have the same opportunities of attending the lectures of a given professor. A class list issued under any other conditions would hardly represent fairly the relative merits of the students. I should contemplate with some misgiving an attempt to amalgamate Part 2 of the Cambridge tripos with the Oxford Final examination, and I cannot see that the situation will be clearly different in the case of Calcutta and Chittagong for example. If Calcutta is unable to provide for the whole of the students taking post-graduate teaching, the proper remedy, in my opinion, would be the establishment of a second university. In the event of course of the Commission deciding that the M.Sc. degree may be awarded under certain conditions without examination on the strength of an original thesis, it does not appear to me to be absolutely necessary that a student should conduct his research in the university centre.

The changes in the regulations introduced recently on the strength of the report of the Committee appointed to consider arrangements for post-graduate teaching in the University of Calcutta, represented a distinct advance over the existing state of things but were marred by one fatal and totally unnecessary defect. The advance consists in the arrangements made for the mutual co-operation of the University and the colleges in lecture work and generally in the improved organisation of the boards of studies and other machinery for the control of examinations and study. The defect consists in the elimination of the college itself as a factor in post-graduate work. I consider that each student should be directly associated with a college for tutorial purposes, laboratory, library and general supervision. I regard the University College of Science of course as a college for this purpose. The connection of the student with his college should be formally recognised and the college should be generally responsible for the welfare of the student inside and outside college. The student of course should share in the corporate life of the college. Such an arrangement was impossible under

PEAKE, C. W.—*contd.*

the old regulations as the cost of making provision for a wide course of instruction was prohibitive in the case of nearly all the colleges and practically resulted in a monopoly of post-graduate work being left in the hands of the Presidency College and the University, the number of students associated with the latter making any supervision or corporate life impossible. I can see absolutely no reason, for instance, why a college should not receive affiliation in economics up to the M.A. standard on the strength of a highly qualified professor in charge of the College students and of a library containing a minimum of standard works on the subject, a library that would of course improve from year to year, while the university library, containing a more extended collection of works, would supplement any deficiencies in that of the colleges. Lectures would be provided mainly by the university in co-operation with the colleges, and some of the professors appointed directly of the University might be each associated with a college for the purpose mentioned above. The student would thus be secure of obtaining supervision and tutorial instruction, and a healthy rivalry would be established between the colleges which would provide a legitimate incentive to the professor to assist his students to the utmost of his ability. Further, I regard it as an important matter of policy to improve the status of some of the larger colleges by putting it within their power to take a real share in the higher work of the university without any prejudice to its efficiency, this being accompanied, if possible, by a reduction in the present volume of the intermediate work, to which their energies and resources are largely devoted at present. I have no doubt whatever that a proposal such as I have indicated above will be welcomed by the colleges themselves, and an opportunity of definitely raising the status of non-official colleges should be a strong incentive to private effort to provide the necessary funds. The arguments raised by the committee referred to above against the recognition of colleges for the purpose of post-graduate work are to be found in paragraph 12 of their Report which I quote for convenience of reference :—

> "It is highly desirable that there should be no spirit of rivalry between the University and its colleges, and that all the teachers should be imbued solely with the desire of furthering higher education. We are of the opinion, however, that such harmful rivalry and competition do exist, and result in a lack of co-operation. We have no desire to impute any blame to either the University or the affiliated colleges; both have done their best under very difficult and trying circumstances to provide such instruction as was possible. But it is plain that the lack of a central organisation whereby the University and its colleges could be brought into contact with each other has rendered concerted action between them almost impossible. We have therefore considered and rejected certain suggestions which, though attractive in some ways, seem to us inadvisable for the reasons given in the course of this report. It is impossible to return to the old system by which certain colleges had each its separate organisation for the higher teaching. It is again impossible to suggest arrangements whereby these colleges could institute a form of inter-collegiate lectures which would meet present requirements. Nor has the University sufficient funds to institute a separate and complete organisation, nor would it be advisable for it to do so for reasons given in the next paragraph. Nor, finally, would it be feasible except in connection with certain sciences to sort out the prescribed subjects between the University and the colleges as, in addition to the difficulty of carrying out such an arrangement, it is advisable that the students and teachers of one subject should be in intimate contact with those engaged in another. We recommend, therefore, that the affiliation of colleges in Calcutta for M.A. and M.Sc. work should cease and that the organisation of post-graduate instruction of all kinds be considered to be the duty of the University."

The above reasoning appears to me to be wholly unconvincing and not very intelligible. This much is clear that the Committee based its conclusions solely on the hypothesis of the existence of a spirit of harmful rivalry and competition between the University and its colleges. No facts were put forward in proof of the existence of this deplorable state of things and the following extract from a letter to the Government of India from the Syndicate throws considerable doubt upon its reality. "These facts point not only

to the absence of competition but to a larger and increasing co-operation between the University as a teaching institution and its affiliated colleges." This letter, No. 4851, dated Senate House, 27th November, 1916, and issued thus two weeks before the publication of the committee's report, was addressed by the Registrar on behalf of the Syndicate, to the Secretary, Government of India, Department of Education, in reply to a letter from the Government of India which suggested that "in the matter of post-graduate teaching sufficient co-operation between the University and its affiliated colleges does not exist, and that there is undue competition." I suggest therefore that the Commission should hesitate to put forward any scheme for post-graduate studies, which involves the elimination of the college as a recognised factor in the education of post-graduate students on the strength of an unsupported statement by the committee, which, in the letter quoted above, has been officially and formally declared by the Syndicate to be untrue.

WORDSWORTH, W. C.

I signed the report on post-graduate teaching with something of a wrench, for I believe whole heartedly in the value of the collegiate connection for students, and I believe that the Presidency College was doing well its share of the post-graduate work under the old arrangement. It limited its work to its resources, and the work was done with devotion. Concentration of resources seemed however to be necessary in the interests of the 1,300 or 1,400 students who received inadequate teaching at the university. I acted on my own responsibility, without consulting or pledging my colleagues. Some were strongly opposed to the surrender of affiliation, and Mr. Peake initiated a warm discussion on the subject in the Senate. Dr. Urquhart supported him. Others of my colleagues approved of the new scheme. The report contemplated a collegiate connection. Presidency College students proceeding to study for M.A. or M.Sc. may approach the University as Presidency College students, paying their fees to the Presidency College, residing in its hostels, using its library, etc. This was included in the scheme on my representation. When the scheme was put into operation, it appeared to me that too little was done to secure the co-operation of the resources of the colleges: the colleges were not as colleges invited to co-operate, teachers left colleges to join the University, and a large number of purely university teachers was appointed. The share of the Presidency College in the work was defined so as to equal what it did under the old arrangement though it could offer more. So I moved a resolution in the Senate which provoked a long and heated debate. How the scheme has progressed I am unable to say. I was merely a member of the general council as an M.A. teacher, and, circumstances having prevented me from taking part in the work this year, I am not in touch with developments, not being a member of the executive committee. I am aware that some of the Presidency College staff think highly of the scheme, and that others feel that the influence of the teachers is not so great as it might advantageously be: but I have made no census of opinions, as most of the teachers concerned have doubtless appeared before the Commission.

XII. PRESIDENCY COLLEGE, CALCUTTA, DEVELOPMENT OF.

General Memoranda.

DAS GUPTA, J. N.

I am not quite clear in my mind as to what is exactly meant by the relation of the Presidency College to the Teaching University. I take it, the Commissioners are not here thinking of a teaching university, to be set up at some future date, when circumstances are favourable, in the midst of a large and steadily growing commercial centre like Calcutta. It may be that the Commission are contemplating the present Affiliating University with its affiliated colleges in remote districts, separated from one another by long distances, yet having a common meeting-ground and common interests in the varied activities of the central Senate, but this Affiliating University transformed under the operation of the recent post-graduate regulations. For there can be little doubt that, at any rate, since the introduction of the post-graduate regulations, the Calcutta University is, to all intents and purposes, a teaching university.

I have ventured to put the matter thus, as the view is strongly maintained in some quarters and was forcibly urged before the Universities Commission of 1902, that ever since its inception, the Calcutta University has been something more than a mere examining Board, inasmuch as it has always exercised effective control over the courses of studies taught in its affiliated colleges. And indeed the despatch of 1854 which founded the Indian universities began by suggesting the creation of certain university chairs in the faculties of law and engineering. (*Vide* paras. 30 and 31 of the Despatch.) I am often reminded in this connection of the Oxford of my time. For even at Oxford the university professoriate is a thing of comparatively recent date. Teaching is mainly in the hands of the colleges. In my time, lectures were so arranged that an honours man could go through his schools without attending a single lecture of a single university professor if he chose to do so, although he would have been extremely foolish to do so.

During the closing decades of the last century, it was a favourite occupation with some educational speculators to think of the Presidency College as conferring certificates, etc., of its own on its under-graduates independently of the University; and I have heard high administrative officers expressing the view that perhaps, in the case of a large corporation like the Presidency College, there would be no objection to the Government accepting its certificates as passports for admission into certain departments of the public services; but that difficulties would arise when institutions, not similarly equipped, put forth claims to similar privileges.

My object in alluding to the matter here is to state the view that I would much rather reverse the process. Instead of acting independently of the University, I should like to see Presidency College incorporated with the University and made one with it. And still I am thinking not of single college universities, like some of the modern British universities, but rather of the analogy which Calcutta presents to Oxford:—Calcutta, with its Presidency, the Ripon, the City and the other colleges; Oxford, with its Balliol, Jesus, Exeter, Brasenose and the rest of the colleges.

Here, I am anxious to bring forward two points for the consideration of the Commission. In our present scheme of instruction, a sharp line may be drawn demarcating the teaching up to the B.A. pass stage from the teaching beyond that, I do not mean merely in point of time—but the B.A. honours and the post-graduate teaching. Secondly, the Calcutta colleges are all anxious to have complete arrangements of their own for honours teaching. One can thoroughly sympathise with the colleges in this matter. They are naturally anxious to keep their best men with them throughout their academic career, and the men will not stay unless they can read for honours. Here, however, I venture to think that a sounder plan would be to insist on some division of work between the Calcutta colleges and to attempt at some co-ordination of the work done in them. If the point be conceded,

DAS GUPTA, J. N.—*contd.*

it would follow that honours teaching should be done in some central place where all the Calcutta colleges can do and have their share. And where could this central place be except under the auspices of the University which is the connecting link between the different colleges. I am a strong believer in the principle of the independence of our colleges—a principle which I believe is recognised by the existing university regulations. But independence is not necessarily isolation, and it should not be a bar to the colleges co-operating with one another in a common cause.

As things stand at present, it would not be possible for professors of the Presidency College, which has satisfactory arrangements for honours teaching in almost all the more important subjects, to take part in the honours work in this central place. If, however, those of the Presidency College, who are now engaged in post-graduate work, be definitely made part of the university professoriate, the difficulty would cease to exist. And a collateral advantage would follow therefrom, inasmuch as the evils which are rightly apprehended from a complete separation of under-graduate teaching from post-graduate teaching would be avoided.

As to the relation which should subsist between the Presidency College professors and the university professoriate, at the risk of being considered a crank, I would venture to urge that I have always regarded the Senate and the University as a Republic of Letters, and I should like to consider the combined professoriate as members of a republic of letters, rather than as a hierarchy of officials—the relation of the professors to one another being determined by the nature of the work which each is called upon to do in the interests of the whole.

On the financial questions which are likely to arise in the readjustment of the relation of Presidency College to the University, I am not competent to speak. In this connection, however, I am anxious to invite reference to a noteworthy recommendation of the last Public Services Commission in India. Some of the commissioners, such as Dr. Herbert Fisher and Sir Valentine Chirol, among other things, discuss the importance of a close connection between research and teaching. They also discuss the possibility of the establishment of a central institute for research in India, and the Commission unanimously recommend the creation of twenty professorial chairs for the Indian universities with a view to stimulate research and to give a higher tone to our academic work.

I earnestly beg the University Commission to consider if it may be possible for them to ask the Government of India to give early effect to this recommendation of the Services Commission. On the arts side of the Presidency College, there are at present two or three professors who are doing exactly the kind of work which the Services Commission contemplate. All that is necessary to be done in their case to change their appointments into university professorial chairs is to relieve them of a part of their under-graduate work and to place them into somewhat closer touch with the Council for post-graduate instruction at the University. In their case difficult financial questions are not likely to arise, as their emoluments will be governed by the conditions about salary, leave and pension, etc., which the Government of India may ultimately lay down in consultation with local Governments and with the sanction of the Secretary of State.

I feel tempted to linger on this point; for, to my mind, herein lies one of the surest opportunities of fruitful development of our academic work in future. I cannot help thinking that in the work which is likely to be initiated under the inspiration and guidance of the professorial chairs, the mind of Bengal will find a fitting opportunity for making substantial contributions to the building up of the composite civilisation of the future—a civilisation in which the ideals of the East should stand side by side with the ideals of the West and in which the heart of the East should learn to beat in unison with the heart of the West.

A professor of the Presidency College, a couple of years ago, published one of his inaugural lectures on the study of Indian history, which, among other things, contained the following appeal:—

> "Is it too much to hope that a chair of Indian history may ere long be founded in this city, which is the scene of some of the noblest achievements and triumphs of Job Charnock and of Robert Clive and which is haunted by the memories of Warren Hastings, a chair whose duty it may be to expound in the

DAS GUPTA, J. N.—*contd.*

scientific spirit of the true historian, problems connected with the rise, growth and organisation of the British power in India ? "

When the lecture reached the hands of Dr. Herbert Fisher, he wrote to the lecturer from London :—

" Your excellent plea for the study of Indian history and for the foundation of a chair of Indian history in Calcutta. It is altogether desirable that the commemorative instinct should be quickened and strengthened in India and that the energy of the Indian universities should be in part directed to the noble purpose of retrieving as much of the past as may be retrievable from oblivion. There must be a great deal of unpublished material scattered up and down the country and waiting an editor, and I should like to see Indian scholars co-operating in a movement for editing such material as may be available. The work of our Historical Manuscripts Commission might serve as a model."

When the same lecture reached the hands of Mr. Havell, he wrote to the lecturer :—

" Your suggestive and interesting lecture on the study of Indian history. In times like the present, there is no subject which demands more careful study than the history of civilisation in the East and in the West. We need to learn all the lessons of the past for the work of reconstruction in the future which must begin after the terrible breakdown we are now witnessing.

I hope you will get support for your proposal for a chair of Indian history in Calcutta. It would be a very useful institution in London also."

I have taken the liberty of referring to the views of Dr. Fisher and of Mr. Havell, partly in justification of the importance which I have ventured to attach to the recommendation of the Services Commission regarding the professorial chairs ; but partly also to meet a just objection which may be urged against my suggestion regarding the conversion into university professorships of some of the existing chairs in the arts departments of the Presidency College, namely, that duplication of chairs ought to be avoided. For some time to come, I feel that the fear of duplication need not be entertained, as the present university professoriate is by no means adequate or complete. For example, in the Department of History, with commendable foresight, the University has founded a chair of ancient Indian history and culture. But even for Indian history, not to speak of the needs of English or of modern European history, two other chairs are urgently needed.

XIII. RELIGIOUS AND SOCIAL CONDITIONS, EFFECTS OF.

General Memoranda.

Bose, G. C.

I submit the following extract from the annual report of the Hindu Academy, Daulatpur:—

Daulatpur Hindu Academy is an institution which is interesting from several points of view:—

First and foremost.—It is practically a residential college in which 300, out of a total of 500 students, are in residence along with all the professors including the principal who are about 25 in number. The residential quarters are in detached blocks and the houses in each block are either thatched or tiled or *pucca*. These are all one-storeyed excepting one block which has been built with the Government grant of Rs. 50,000. No block, excepting the last one, accommodates more than 12 to 20 boarders, so that disturbance in study incidental to many boarders residing in one block is reduced to a minimum. Close to and detached from the blocks are the principal's and the professors' quarters which are so situated that they have constant opportunities of mixing with and influencing the conduct of their respective wards. The block built at Government expense accommodates about 60 boarders and one resident superintendent, who though not a member of the teaching staff has been specially selected for his powers of controlling and exercising wholesome influence over the students. The unpretending little blocks of thatched and tiled huts have the advantage of placing the students in environments from which they have mostly come and to which perhaps most of them will have to go back, after leaving the college. Stilted ideas of life and living imbibed in college days are apt to estrange the students from their homes, lift them out of their natural surroundings and cause bitter disappointment when they come to face the stern realities of life. Every room of almost every block was visited and found occupied by happy and cheerful youths, and a talk with them showed that they were satisfied with the arrangements. The rooms are neat, well-lighted and well-ventilated, bed-sheets clean, floors clean swept and books well arranged. The sanitary arrangements have been well laid out, a good sized tank has been reserved for drinking water, another for bathing and washing purposes, and a third for the use of Professors who live with their wives and children. Every block has its own kitchen, the mess arrangements are their own, and the boarders pay only a small fee as seat-rent and establishment charge. The cost of living in the college thus works out to a figure which is well within the means of all excepting the hopelessly indigent.

Chakravarti, Brajalal.

I would like to invite the attention of the Commission to some broad features of the problem that has to be solved. The University of Calcutta has worked for more than half a century. So far as the arrangements for intellectual culture are concerned there is not much to complain of. The result, however, has failed to give satisfaction as it has been beneficial neither to the individual nor to the society.

The present system has sought to bring up our young men in a manner which is not quite in keeping with their condition in life. It has given rise to aspirations which there is no means to realise. The intellectual progress of the people has not been very remarkable, at same time, there has been a serious disturbance in their economic condition. The defect, however, is not so much in the existing

CHAKRAVARTI, BRAJALAL—*contd.*

method of the work as in the omission clearly to define the object of education itself. In other words we miss any high ideal in our work of education and up to now knowledge has been treated as a means to worldly advancement and has not been regarded as an end in itself.

Before proceeding to determine the ways and means of education it would be well if the Commission could clearly define the object of education, *viz.*, what the finished product of it is expected to be and how he is expected to live in relation to the world outside. It is not possible to discuss the means and to make an estimate of its efficiency or otherwise without a clear view of the end it is calculated to realise.

The question is a large one inasmuch as it involves an analysis of the constitution of man and a close examination of his relation to the world. The enquiry would necessarily lead us to the conception of religion which alone affords full scope for the expansion of the personality of man and brings him into harmony with the world. The people of the ancient world could find peace and happiness in their ideas of religion and asceticism. Although the pleasures of the senses have multiplied many times since then, men in our times seem to be worse off and the miseries of the world have rather been on the increase. Our attempt to build a world without God and religion seems to have failed and the trend of modern rationalism is fast approaching religious faith.

The Commission will have to consider many aspects of the question and it would not be out of place if I were to invite their attention to the Hindu view of the goal of life and the method of attaining it. It was something real and traces of it are visible even now in the systems of indigenous education that have survived the ravages of time. With suitable modifications it can be made to work even now.

As to the ideal of life, I propose to quote the following passages of the Upanishads from Professor Max Müller's translations in the Sacred Books of the East Series :—

Chhandogya V, 3.

"1. Svetaketu Aruneya went to an assembly of the Panchalas. Prabahana Gaibali said to him : 'Boy, has your father instructed you ?' 'Yes Sir,' he replied."

"2. Do you know to what place men go from here ? 'No, Sir,' he replied"

'Do you know how they return again ?'

'No, Sir,' he replied."

"4. Then why did you say 'you had been instructed ?' How could anybody who did not know these things say that he had been instructed ?"

Brihadaranyaka II, 4.

"1. Now when Yagnavalkya was going to enter upon another state he said : 'Maitreyi, verily I am going away from this my house (in the forest). Forscoth, let me make a settlement between thee and that Katyayani (my other wife).'

"2. Maitreyi said : 'My Lord, if this whole earth, full of wealth, belonged to me, should I be immortal by it ?'

'No,' replied Yagnavalkya, 'like the life of rich people will be thy life. But there is no hope of immortality by wealth.'

"3. And Maitreyi said : 'What should I do with that by which I do not become immortal ? What my Lord knoweth (of immortality), tell that to me."

Katha I, 1.

"20. Nachiketas said : 'There is that doubt, when a man is dead, some saying, he is ; others, he is not.' This I should like to know, taught by thee : this is the third of my boons."

"21. Death said : 'On this point even the Gods have doubted formerly ; it is not easy to understand.' That subject is subtle. Choose another boon, O Nachiketas, do not press me and let me off that boon."

22. Nachiketas said : 'On this point even the Gods have doubted indeed, and thou Death hast declared it to be not easy to understand, and another teacher like thee is not to be found—Surely no other boon is like unto this.'"

"23 Death said : 'Choose sons and grandsons who shall live a hundred years, herds of cattle, elephants, gold and horses. Choose the wide abode of the earth, and live thyself as many harvests as thou desirest.'"

CHAKRAVARTI, BRAJALAL—*contd.*

"24. 'If you can think of any boon equal to that, choose wealth and long life Be (king) Nachiketas, on the wide earth. I make thee the enjoyer of all desires.'"
"25. Whatever desires are difficult to attain among mortals, ask for them according to thy wish;—these fair maidens with their chariots and musical instruments, such are indeed not to be obtained by men—be waited on by them whom I give to thee, but do not ask me about dying."
"26. Nachiketas said: 'These things last till to-morrow, O Death, for they wear out this vigour of all the senses. Even the whole of life is short. Keep thou thy horses, keep dance and song for thyself.'"
"27. 'No man can be made happy by wealth Shall we possess, wealth, when we see thee? Shall we live, as long as thou rulest? Surely that boon (which I have chosen) is to be chosen by me.'"
"28. 'What mortal, slowly decaying here below, and knowing, after having approached them, the freedom from decay enjoyed by the immortals, would delight in a long life, after he has pondered on the pleasures which arise from beauty and love?'"
"29. 'No, that on which there is this doubt, O Death, tell us what there is in that great Hereafter. Nachiketas does not choose another boon but that which enters into the hidden world.'"

Katha I, 2.

"1. Death said: 'The good is one thing, the pleasant another: these two, having different objects, chain a man. It is well with him who clings to the good: he who chooses the pleasant, misses the end.'"
"2. 'The good and the pleasant approach man: the wise goes round about them and distinguishes them. Yea, the wise prefers the good to the pleasant, but the fool chooses the pleasant through greed and avarice.'"
"3. 'Thou, O Nachiketas, after pondering all pleasures that are or seem delightful, hast dismissed them all. Thou hast not gone into the road that leadeth to wealth, in which many men perish.'"
"4. 'Wide apart and leading to different points are these two, ignorance, and what is known as wisdom. I believe Nachiketas to be one who desires knowledge, for even many pleasures did not bear thee away.'"
'5. 'Fools dwelling in darkness, wise in their own conceit, and puffed up with vain knowledge, go round and round, staggering to and fro, like blind men, led by the blind.'"
"6. The Hereafter never rises before the eyes of the careless child, deluded by the delusion of wealth 'This the world,' he thinks, 'there is no other;'—thus he falls again and again under my sway."
"7 'He (the self) of whom many are not even able to hear, whom many, even when they hear of him do not comprehend: wonderful is a man, when found, who is able to teach him (the self); wonderful is he who comprehends him, when taught by an able teacher.'"

Katha II, 4.

"2. 'Children follow after outward pleasures, and fall into the snare of widespread death. Wise men only, knowing the nature of what is immortal, do not look for anything stable here among things unstable.'"

Brihadaranyaka I, 4.

"15. Now if a man departs this life without having seen his true future life (in the self), then that self, not being known, does not receive and bless him, as if the Vedas had not been read, or as if a good work had not been done. Nay, even if one who does not know that (self), should perform here on earth some great holy work, it will perish for him in the end. Let a man worship the self only as his true state. If a man worships the self only as true state, his work does not perish, for whatever he desires that he gets from that self."

CHAKRAVARTI, BRAJALAL—*contd.*

Katha II, 5.

"12. 'There is one ruler, the self within all things, who makes the one form manifold. The wise who perceive him within their self, to them belongs eternal happiness, not to others.'"

"13. 'There is one eternal thinker, thinking non-eternal thoughts, who, though one, fulfils the desires of many. The wise, who perceive him within their self, to them belongs enternal peace, not to others.'"

Chandogya VII, 23.

"1. The Infinite (bhuman) is bliss. There is no bliss in anything finite. Infinity only is bliss. This Infinity, however, we must desire to understand....."

This idea of infinity alone can give sufficient scope for the expansion of the mind of man. It makes him self-contained and independent of the world outside. It puts an end to all disputes and differences between man and man, paves the way for co-operation and makes the world peaceful and happy. The ideal may not be easy to attain, yet it is the true ideal and the only one that can solve the many and complicated problems of life.

I wish also to point out that there is no risk of the initiative of the man being paralysed by the idea of the final quietude. It is true that in our everyday life we find our activities to be called forth by the dominant ideas of pleasure and pain, but we should not forget that the activities we really approve of are those that arise out of rational motives or in other words from a sense of duty. The Hindu sages were quite alive to this situation and we find the following rules of life laid down by them.

Chhandogya VII, 22.

"1. When one obtains bliss (in oneself), then one performs duties One who does not obtain bliss, does not perform duties. Only he who obtains bliss, performs duties. This bliss however, we must desire to understand."

Manu (Jones' translation), Ch. III,

"115. 'The idiot, who first eats his own mess, without having presented food to the persons just enumerated, knows not, while he crams, that he will himself be food after death for bandogs and vulture.'"

"117. 'The house-keeper, having honoured saints, holy sages, men, Progenitors and household gods, may feed on what remains after those oblations.'"

"118. 'He, who eats what has been dressed for himself only, eats nothing but sin: a repast on what remains, after the sacraments, is called the banquet of the good.'"

In short a man is to live for the world and there is no worth in his own individual life except in so far as it is meant for the service of the world. Instead, therefore, of destroying the initiative, the ideal of religion rather purifies it and puts it upon a stronger and a surer ground.

The educational method of the Hindus was an extremely simple one and the question of funds did not present any difficulty to them. The idea of plain living and high thinking was insisted upon as a rule of religion.

Chhandogya VIII, 4.

"3. And that world of Brahman belongs to those only who find it by abstinence, for then there is freedom in all the worlds."

This purported to secure both efficiency and economy in the work. The work was distributed in due proportion among the teachers, the student, the king and the people. The arrangement was a very natural one and did not throw any heavy burden on any of the parties concerned.

CHAKRAVARTI, BRAJALAL—*contd.*

With the teacher it was an imperative duty to teach and omission to do that was a sin. (Manu X, 75). The teacher was to provide the student with food (and residence). (Manu, II, 164). He was to accept no fee from the student while the latter was being taught and if he did so both the teacher and the student would suffer degradation. The teacher was permitted to receive a present from the student when the latter returned home on the completion of his studies. (Manu II, 245 and III, 156, 168). The teacher was to live a life of poverty. (Manu IV, 7 and 8). He could earn money by religious services and by accepting gifts from people on occasions of religious ceremonies. While in distress he could apply to the king for subsistence.

The texts are given below:—

Manu X, 75.

"Reading the Vedas, and teaching others to read them, sacrificing and assisting others to sacrifice, giving to the poor, if themselves have enough, accepting gift from the virtuous, if themselves are poor, are the six prescribed acts of the first born class."

Manu II, 146.

"Let the twice born youth, whose souls has been formed by this regular succession of prescribed acts, collect by degress, while he dwells with his preceptor the devout habits proceeding from the study of scripture."

Manu II, 245.

"Let not a student, who knows his duty, present any gift to his preceptor before his return home; but when by his tutor's permission, he is going to perform the ceremony on his return, let him give the vernerable man some valuable thing to the best of his power."

Manu III, 156 and 168.

"One who teaches the Veda for wages, and one who gives wages to such a teacher * * * * to him the oblation must not be given; for the clarified butter must not be poured on ashes."

Manu IV, 7 and 8.

"He may either store up grains for three years; or garner up enough for one year; or collect what may last three days; or make no provision for the morrow."

"Of the four Brahmins keeping house, who follow those four different modes, a preference is given to the last in order successively; as to him, who most completely by virtue has vanquished the world."

The student was to live an austere life, to render services to the teacher, to collect alms for him, to gather fuel, etc., for him, to tend his cattle, etc. Such practice was to continue for twelve years or upwards, to ensure perfect discipline of the body and the mind of the student.

See *Manu, Ch. II.*

"108. Let the twice-born youth who has been girt with the sacrificial cord, collect wood for the holy fire, beg food of his relations, sleep on a low bed, and perform such offices as may please his preceptor, until his return to the house of his natural father."

"182. Let him carry waterpots, flowers, cow-dung, fresh earth, and *cûsa* grass, as much as may be useful to his preceptor; and let him perform every day the duty of a religous mendicant."

"218. As he who digs deep with a spade, comes to a spring of water, so the student who humbly serves his teacher, attains the knowledge which lies deep in his teacher's mind."

CHAKRAVARTI, BRAJALAL—*contd.*

Chhandogya IV, 4.

"5. .....

Having initiated him, he chose four hundred lean and weak cows and said: 'Tend these friend.' He drove them out and said to himself, 'I shall not return unless I bring back a thousand.' He dwelt a number of years (in the forest), and when the cows had become a thousand....."

It was enjoined upon the king and the people to perform religious duties and on such occasions to make gifts to the Brahmins including, a student living with the teacher, one who wants money for making a present to his teacher at the time of coming away from him after the completion of his studies, one who has returned from the house of the teacher after the completion of the studies and wants to settle in life as a householder, and persons who have acquired various grades of proficiency in their studies:—

Manu III.

"94. When he has performed this duty of making oblations, let him cause his guests take food before himself; and let him give a portion of rice, as the law ordains to the mendicant, who studies the Veda."

"128. Oblations to the Gods and to ancestors should be given to a most reverend Brahman, perfectly conversant with the Veda; since what is given to him produces the greatest reward."

Manu VII.

"82. To Brahmans returned from the mansions of their preceptors, let him show due respect; for that is called a precious unperishable gem, deposited by kings with the sacerdotal class.

Manu XI, 1 and 2.

"* * * * Him who desires to maintain his preceptor, his father or his mother; him who needs a maintenance for himself, when he first reads the Vedas * * 7."

"These nine Brahmans let mankind consider as virtuous mendicants called *Snatakas*; and to relieve their wants let gifts of cattle or gold be presented to them in proportion to their learning."

It was the bounden duty of the king to see to the support of a teacher.

Manu XI.

"22. Having recokoned up the persons, whom the Brahman is obliged to support, having ascertained his divine knowledge and moral conduct, let the king allow him a suitable maintenance from his own household;

"23 And having appointed him a maintenance let the king protect him on all sides; for he gains from the Brahmin, whom he protects, a sixth part of the reward of his virtue."

A more efficient and at the same time a more economical arrangement it is not possible to conceive. A retired and abstemious life gave the teacher sufficient freedom to devote himself to intellectual pursuits. The automatic arrangement of financial support from the people and the assurance of the ultimate support of the king kept him relieved of all anxiety. The influence of such a system on the mind of the student is very great. The present method of selling learning for a fee lowers the position of the teacher in the eyes of the student and cuts away the root of all discipline, whereas in the ancient days the teacher, who used to maintain the student as well as to teach him used to be looked upon as a father and even as one more venerable than the natural father—(Manu II, 146. "Of him who gives natural birth and him who gives knowledge of the whole Veda, the giver of sacred knowledge is the more venerable father")—and the affiliation of the student to the teacher was so complete that under the Hindu Law one would come in as the heir of the other.

The discipline enjoined upon the student makes him fit for any career in the world whether rough or smooth. Having been taught to live an austere life he finds himself less dependent on the world and in consequence, more free to continue his pursuit of knowledge during the rest of his life. Education is free for all purposes, subject only to the restriction of the moral and intellectual fitness of the student. The charity bestowed on the student in the beginning of his life bears fruit and when the time comes, he repays that to the society with an increase, by working as a teacher and in other ways.

The burden thrown upon the king is almost nominal and much lighter than it is now. Cost is considerably reduced by reason of the abstinence of the teacher and the student and is met in part by what is supplied by the labour of the latter. The financial burden is distributed over the whole of the population and the share that falls on the king is therefore very small. On the other hand, the effect of such education on the people makes the work of the administration of the country very easy and secures a positive gain to the king.

It confers a similar benefit upon the people. Students so brought up are a source of strength to the community. The parents are relieved of the burden of the educational expenses of their boys and the entire establishment is maintained by the voluntary contributions of the people made according to their means. No method of taxation, direct or indirect, could give so satisfactory a result. At the same time the system of the collection of alms brings the learned into direct contact with the householders and serves to bring about an intellectual communion between the two classes, resulting in the edification of the latter.

To the Hindus the texts cited above constitute a part of their revealed religion. To others who may not look upon them in the same light, they have the authority at least of age and experience. Any scheme for the education of the Hindus ought to take into account these traditions of the past. The climate and soil of Bengal are suited to the carrying out of such a scheme, inasmuch as living can be made very cheap and the labour of students turned to good account.

The ideas I have expressed above are not peculiar to Hinduism. They are to be found in every religion, not to speak of Christianity and Muhammadanism. The form has to be varied to suit the requirements of the different religious persuasions, but the substance is common to them all. The actual working of the system would require the establishment of denominational schools and colleges.

While denominational institutions can regulate physical and moral culture, some other machinery is necessary to ensure uniformity in the standard of intellectual culture. We have a population which though divided into many sections by race and religion has to meet on a common platform in public life, requiring a common standard of intellectual progress. This can be assured by reserving to the University the control and the development of the intellectual education of the people while leaving it to the denominational institutions to provide for the special needs of the different communities. This will also be an important move towards the solution of the question of finances. The finances of the University may be left mainly to the State while those of the denominational institutions may be made to depend more upon the respective communities.

CHAKRAVARTI, VANAMALI.

I am specially interested in the problem of moral education or character-building. I think it quite possible to instruct students in the principles of universal morality and as a basis for this to instruct them in the principles of their own religion. The hostels or boardings at any rate might form the centres of such instruction. The moral instructors should be men of real character. Professors are chosen now-a-days by mere academic qualification. In future, character [*i.e.*, unselfishness, devotion to duty, readiness to help the needy, patriotism, orderliness, habit of cheerful obedience, fearlessness, loyalty, etc.] should be insisted on as a *sine qua non* in all who aspire to be teachers.

It would make the work of the moral and religious instructor easier if he does not drink or smoke, if he is above suspicions of sexual immorality, if he does not bow to the prevailing wind in order to secure worldly advancement, if his manner, dress, talk and food be not unlike those of the people—only such people can have abiding influence on the majority of our boys. I know cases of European and Indian professors who failed to do any good to their students in respect of character-building, because they were sus-

pected of laxity in matters sexual. Professors who come to college smelling of wine, [and I have known and heard of some] are looked down upon by Indian students who have not yet realised that a man may have many excellent moral qualities to teach his pupils (by personal example) though he drinks or has allied vices. Boys are generally sharp in finding out the defects of their teachers and hence teachers should be really good and honest people. This is difficult to secure, but nevertheless it is necessary. The educational authorities should see that the teachers serving under them get no chance of dishonestly adding to their income and that their services are not retained after they could be reasonably suspected of immoral conduct.

Every Hindu and Muslim hostel should have its prayer room, its religious library, its co-operative charity fund and its moral and religious society. Students do not take much interest in these affairs now, because these do not pay in the examination and also because some of the professors look askance at these activities.

If colleges have inter-collegiate competitions in religious examinations (examination in Upanishads, Manu, Geeta, Bible, Quran, etc.), and if prizes and certificates are given and names of brilliant students published in the University Gazette, then a greater interest might be aroused in the student community. There ought to be medals and prizes for social service, such as rescuing drowning people, tending the sick, aiding the sufferers from floods and famines, etc., bestowed by the University. Every college should have its Boy Scouts or something corresponding to it. Older and better boys might help the younger and worse boys *gratis* in learning their lessons as in the *tol*, and thus render their own knowledge clearer and acquire the habit of active benevolence. All this would teach morality. The College Moral and Religious Society should have a co-operative charity fund and religious library managed entirely by the students—but under the guidance of a professor. By systematically, but freely, giving something to the funds of a library and charity fund, the boys would learn the principles of co-operative charity. Students may also maintain co-operative stores of their daily necessities, such as books, etc. The poorer students might find employment in these stores and earn and learn at the same time.

I have felt it as a bitter disappointment that some of the Bengali professors at Gauhati (including myself) could not do as much good to the Assamese students in the matter of character-building as they desired and toiled for, because they did not talk good Assamese and not having marriage relations in Assam were regarded as foreigners. The European professor's opportunity of influencing his Indian students' character for good is almost *nil* unless he be a real enthusiast in the cause of Indian education, [and even more needful than that]; unless he talks the language of his students, and knows the history of India and shows practical sympathy with the student's life and ideals.

Our educational institutions are not producing, in sufficient numbers, men who could successfully overcome the obstacles that lie in the path of good citizenship, and who could die for their King and Country in the hour of need, because both European and Indian professors have failed in showing practical sympathy with his students and had not the necessary moral qualification.

CHATTERJEE, SANTOSH KUMAR.

The Calcutta University, like the other modern universities of India, has undertaken a formidable and at the same time a noble task. It is no less than that of transplanting the knowledge and culture of the West to the apparently ungenial soil of the most oriental of oriental countries. To bring the wisdom of Europe—its philosophy and arts and sciences within reach of the intellectual classes in India and thereby to transform its social, political and religious structure was the primary object which the founders of the Calcutta University had in view. In spite of what unsympathetic critics may have to say, those who are intimately acquainted with the results of this bold experiment will admit that it has already met with considerable measure of success. The enrichment of national life by the infusion of occidental thought into oriental idealism and so blending the best and noblest elements of the two civilisations into one harmonious whole is the great service which the Calcutta University has at least partially succeeded in rendering to Bengal.

Nevertheless it must be admitted that the Calcutta University during the last fifty years of its existence has not succeeded in shaking itself free from the cramping influence of its mediæval environment. "Advancement of learning" has been adopted by it as its motto; but diffusion of western knowledge has been hitherto its special function.

But the mediæval age in India is drawing to a close, and the modern age with its more strenuous activity is already in sight. There can be no doubt that the Calcutta University by diffusing the light of western culture and so dispelling the darkness of ignorance from the land has powerfully contributed to the ushering in of a new epoch in the life of this country. The coming renaissance of India promises to be as big in its consequence as the earlier renaissance of Europe.

The Calcutta University, therefore, as the greatest centre of learning in India must now adjust itself and its ideal to the changing intellectual atmosphere of this country. It must no longer be content with the mere diffusion of learning already acquired elsewhere, but must itself contribute to the stock of world's knowledge. The creative faculty of India lying dormant for so many centuries must again be stimulated and developed to the fullest extent. This is the ideal which the Commission should keep in view when considering the question of the reorganisation of the Calcutta University.

CUNNINGHAM, The Hon'ble Mr. J. R.

Being but little read in the literature of universities, their aims, purposes and so forth, and having taken no part in university work in India except as a lecturer and afterwards as an administrator, accepting existing conditions and trying to make the best of them, I cannot pretend to consideration as an expert witness from within and shall avoid troubling the Commissioners with extemporary answers on the specially academic aspects of their catechism.

The University presumably fails to be regarded primarily as an institution for disseminating and advancing knowledge. The first would seem to be its more obvious purpose. Whether it is the more radical or not I cannot judge. But, possibly, the purposes react and the first cannot be well achieved if the second is neglected. It would seem, however, that the purposes are so far separable that one may on a short view consider which should be first in regard if conflict arises between them in their claims upon the resources forthcoming for university education. Such a consideration need not of course involve the neglect of either.

Again, it does not seem possible to regard the University as an institution merely cultural even in its non-professional courses. The collegiate life may be more important than its learning; and, confining the view to learning, the studies which are primarily designed to stimulate and enlarge the understanding must yet be related to the course of life for which the student is intended; their successful completion must qualify him for employment so remunerated and of such dignity as to be appropriate to the degree of his learning and the sacrifices of time and money its attainment has involved. The University and university institutions must adjust themselves to the needs of the people whose cause they are to serve and assume such functions as these needs impose upon them.

If these considerations are of force, the University cannot be considered as a thing in itself, but rather as a single agent inter-acting with others in a complex social, economic and political system to the needs of which all must be adjusted. The question of reform has to be considered with regard to the circumstances and differentia of the system of which the University is a part. Recent political developments in India, for instance, appear to claim as a matter of the utmost need that the education imparted under the auspices of the universities should be such as to set forth upon their way in growing numbers a breed of scholars and of public men of the highest sanity and culture who may lead and inspire the people; and, on the other hand, to require that education generally should be "in widest commonalty spread" over the length and breadth of India. I say "on the other hand" not only or even mainly on account of the question of precedence which tends to arise when both purposes appeal to the same meagre exchequer; but also and particularly

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because a wide extension of education involves of necessity under present conditions a multiplication of the numbers who aspire to a university training and thus an immediate conflict (it is present with us now) between the demand for an extension of the facilities which exist and the need for their improvement.

Again regard has to be had to the industrial situation. It may be that it is not unpractical to look for the key to the solution of many educational difficulties in the possibility of a vigorous industrial advance and of such a modification of the social system as will allow of the opportunities afforded by such an advance being taken advantage of by the communities who are now besieging the gates of the University.

If the University has to be considered with reference to its environment the question of reform involves many extra-academic and preliminary considerations and in regard to these I shall venture to express myself.

It is possible to carry this too far, to render the situation so complex by an attempt to be comprehensive as to make it seem impossible short of inspiration to answer any questions in regard to it. I trust I shall not betray myself completely into such bewilderment, but find it necessary to attempt a general view before coming to close quarters with detail.

The first place amongst the collegiate population is taken by the classes known in this part of the world as the *bhadralok* and consisting mainly, so far as Bengali speaking Hindus are concerned, of the Brahmin, the Vaidya and the Kayestha. This class of people or group of castes have had from of old a monopoly of professional and clerical employment and they look to the market and ultimately to the Government of the country to see that their requirements are satisfied. They have, at the same time, been in the main the leaders of the people, looked up to and respected. Failure to satisfy their needs becomes a political question and reacts upon the administration.

The market of employment is undoubtedly developing as the wealth of the country increases, but the increased supply does not keep pace with the demand. I have not before me statistics which would enable me to express the measure of this truth. But that it is a truth will be freely admitted. At present in a country in which wide discrepancies of fortune are much less manifest than in other countries which are regarded as economically blessed, such discrepancies would seem to be most marked amongst the *bhadralok*, some of whom live in affluence, but a large proportion in conditions which, considering their standards and requirements, can only be regarded as extreme poverty. It is by the *bhadralok* that the pinch of poverty is most severely felt and it is from them, in a combination of economic discontent and political idealism, that the agitation springs which purifies itself into progress. Progress so backed and so inspired is naturally a progress along lines congenial to the temperament and qualities of the class from which it springs. This class is by its traditions dissociated from industrial enterprise, and socially, has tended as a whole to resist reorganisation or progress in defending its privileges and its prestige against the encroachments of the lower classes. It is natural, therefore, that such progress as has been achieved or is immediately in view is disproportioned in its various branches—politically it sets itself a hope of rapid accomplishment on democratic lines —socially and economically, it moves slowly and reluctantly to the establishment of such conditions as might at once satisfy its own requirements and safely serve for the foundation of democratic institutions. It may be said that this has been adequately realised on the economic side at least — that for half a century the literate have called out for technical education with a view to industrial advance. But the cry for technical institutions has been unsupported by useful action. It has in reality been a cry for industries and in its interpretation a cry for employment, the opportunities for employment of the old kind which a busy market would create. The spirit of commercial or industrial enterprise has been wanting, or, where it has been present, has manifested itself mainly in failure. There are many reasons to account for this — in part; I imagine, the tradition of the classes concerned; in part, probably, the system of early marriages and other aspects of the Hindu social organisation; no eager spirit of enterprise can be expected on the part of those who have early in life given hostages to fortune. On the other hand, it may be said that there is want of encouragement and opportunity, and that the State has not moved as it should have done in this matter. Be this as it may, the fact remains that these classes call

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out for employment, that in the absence of other avenues they march along the road of the middle school and high school and press in a very mingled throng through the gates of the University. This is a state of things which will not correct itself in a day, and which must be taken into reckoning in any question of educational reform. It complicates the view of a University, its organisation and its functions when such an institution has to undertake the task of dealing with numbers of whom only a very small fraction are adapted for a course of life to which the culture and training of a university is necessary or appropriate. It further complicates the task that reform needs money, that money has never been forthcoming to allow of more than a slow progress according to current ideas and requirements, and that the increase of numbers eager for an extension of such facilities as are now afforded is so derived as to threaten a progressive deterioration of standards. The problem of numbers grows increasingly difficult. On the one hand, there is the risk of collegiate education passing out of hand as completely as secondary education has done, and with more serious consequences, on the other, there is the problem of the youth of the most advanced section of the people not only unemployed in posts of any emolument or prospect, but denied the opportunity of qualifying themselves to compete for such posts of worth as the country does afford.

That this problem of numbers is no passing phase will be plain from a consideration of the causes which create it of which the following seem to be the most important:—

(*a*) The advance of education.

(*b*) The natural increase in the number of the *bhadralok* classes proper, their growing divorce from the land which used to be the base on which the family rested, and the presentation of a larger proportion of the *bhadralok* population as candidates for employment on account of the rise in the standard of living and the falling value of money.

(*c*) The impregnation of the lower castes with the determination to rise in the social scale, discarding the old caste names, eagerly seeking for education and striving in accelerating numbers to compete with the higher castes on their own ground, *taking their lead from them and setting their eyes on the same objects of aspiration and endeavour.*

(*d*) The awakening of the Muhammadan community.

(*e*) The Brahmins, large classes of whom were supported in former times by the free will offerings of the people, have no longer in anything like the same measure this good will to depend upon and so tend to increase the throng of applicants for secular employment.

5. The rapidity of the process in this province will be manifest from the single example of the Murarichand College— a college which ten years ago numbered altogether only 27 students on its rolls and for admission to the first class of which we had this year between three and four hundred applicants, over 200 of whom were classed by the University as preeminently fit for collegiate study having been given a first class pass in their matriculation examination. The 27 of 1908 did not of course exhaust the local demand; a certain number of the Surma Valley students proceeded at that time to outside colleges. But a certain number still proceed to outside colleges, and it will probably not be excessive to consider that the demand has multiplied itself five or six times in the period. And—harping on the second string—at no stage of the progress, although it has seen two periods of exceptiona prosperity, have funds sufficed to provide adequately even on existing standards for the demands current at the time. Some five years ago when hopes ran high in the matter of finance a then sanctioned scheme for the development of the college on suitable lines as a second grade college for 120 students was set aside as inadequate and a new scheme was framed and sanctioned to provide for about 600 students in a college, mainly residential, teaching up to the honours standard of the University in arts and science. The scheme has had in large part to be held in abeyance for want of funds. In the matter of buildings, not one brick has been laid upon another. And already there is an insistent demand from the people that the measure of the scheme should be greatly extended, standards being reduced so as to render this possible.

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In Bengal it would seem that the situation is not dissimilar. The following figures are instructive—they relate to the University as a whole :—

Year.	NUMBER OF CANDIDATES PASSING			
	Matriculation.	Intermediate.	B.A. or B.Sc.	M.A. or M.Sc.
1907	8,401	1,104	435	97
1917	11,270	3,790	2,183	466
Percentage of increase	252	243	402	393

It woud be interesting to compare with these figures of increase the figures in regard to the number of qualified teachers, the extension of college and hostel accommodation, the increase of expenditure. They are not before me, but being elicited could, I am sure, point to only one conclusion, *viz.*, that the problem of numbers is radical and must be taken into immediate reckoning. It is so at any rate in Assam.

It may be considered that the demand might be dealt with in several ways other than by mere concession, *e.g.* —

(i) The raising of the standard of Matriculation.
(ii) The raising of the fee rates.
(iii) The transfer to the schools of much of the work which is now done by the universities.
(iv) The establishment of new standards for admission to Government service.
(v) The opening of new channels of employment.

In all these ways—it may be —action should be taken. But none offers an immediate solution of the difficulty. The first would be merely a temporary check, the second would intensify the economic stress, the third would transfer the University's burden to institutions which are at present quite incapable of sustaining it, the fourth would be effective if it were practicable, but I do not think it is ; and the fifth which seems to be the most important is an influence of slow growth requiring on the part of the State energetic action and large subsidies, and eager and intelligent co-operation on the part of the community.

All will proceed in an atmosphere of opposition. There is a constant conflict in educational policy between the Government and the people—the one desiring to improve the standard of education, the other crying, on behalf of the hungry who are not fed, for the relaxation of standards and the wider spread of education—good or bad.

The problem of numbers taken in conjunction with the question of funds involves us in large classes, low standards, limited supervision and alienation of the teachers from the taught. It involves the question of reform in political opposition unless concessions are made to enable the numerical demand to be satisfied. The political aspect cannot be over-emphasised.

Another factor of great importance is the condition of our schools. I need not enter into this, for the feebleness of the system of secondary education must already have been impressed on the Commission. It is difficult to say that reformation of the secondary school system should precede university reform, because the reforms are interdependent. The University looks to the schools for well-qualified entrants ; the schools look to the University for well-qualified teachers ; and both look to the exchequer for money. The expectations of all have been disappointed. And disappointment seems a continuing condition unless economic or political changes arise which render it possible to devote funds to educational purposes in growing measure according to a definite educational policy based on finance and co-ordinated with other public activities.

I must not be taken as suggesting that only money is required. But without money, without a policy, without a financial programme, the difficulties in the way of general and radical reform seem to be insuperable.

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I have already suggested that social reform is a factor to be taken into consideration. Indian witnesses will be able to advise whether change must be left to the slow influences of economic and political pressure.

Related to the social question is the consideration of industrial advance—the opening of new channels, etc. The channels must be such as are or can be made congenial to the qualities and inclinations of the people concerned. It may be considered in view of what has gone before that the most hopeful line of action is to betray the community into commercial and industrial progress by leading them along the way and through the gate which have hitherto been for them the only way and the only gate to opportunity. On the other hand, it may be considered that the hands of the University are more than full with the responsibilities it has already assumed, that it is in no position to foster the industry or the enterprise necessary to create the markets—they do not at present exist —which would provide employment for its graduates —that to rely on the University to take the first step in this matter would be to obscure the situation, satisfying the public with an illusory solution, and aggravating the problem of unemployment.

The question of industrial development has suffered hitherto from being regarded too largely from an educational point of view. The history of technical schools, State scholarships, etc., in these parts is a history of failure or of ineffectual action—in some cases from an immediate point of view harmful, in some harmless or even trivially useful —but in all unfortunate as putting the cart before the horse, opening schools instead of encouraging industries and acting as an anodyne.

I have already indicated certain difficulties which face the development of industries. The privileged classes do not take to commerce or industry, the unprivileged follow the lead of the privileged. It has been said that in these parts the social order is a despotism of caste tempered by matriculation. It is only by matriculating and taking the part in after life which has been reserved for those who have matriculated that the lower castes can raise themselves to consideration. It is only so that they can raise a representation strong enough to fight for their social and political interests ; as it is only by education that the privileged classes can qualify themselves to oppose effectively the conservatism of Government. On both hands this literary education is what every man desires. And if new ways are opened which lead to profit the best amongst the lower classes will still press forward, undiverted, to the University unless the new employment is socially esteemed and certificated by the fact that the *bhadralok* compete for it.

In the opening paragraph I have considered the University as an institution for the dissemination and the advance of knowledge. But in India more than elsewhere the term knowledge has to be extended beyond its scholastic significance. The way of life, the outlook, the discipline of a European university are congenial to the soil. It is otherwise in India, where a new system of life and thought has to be assimilated and a foreign language is the vehicle of learning. Here it is more difficult than it is at Home—and at Home the subject is not yet beyond debate—to settle the point at which school education ends and university education begins. And probably in India, even if some devolution from university to school be practicable, the University will still have to occupy itself largely with work which is done by schools elsewhere. I quote in this connection from a recent note on the subject of the type of men we want at present to recruit from Home for collegiate work in Assam :—

> " What seems to be particularly needed is men who are adequate in learning and at the same time strong in capacity, character, and personality. The outlook of our universities cannot be only academic ; it is in our colleges that we must train the happy warriors of the new State. And it may be considered of greater importance that the colleges should turn out such men with their foundations truly laid than that endeavour should be concentrated on hastening the time when the colleges of India will besiege learned societies in Europe with papers of chemical research or contributions to the study of the Hegelian logic. Such work must of course be aimed at, but the issue of academic research should not be allowed to obscure the larger issues of progress. In India we cannot hope to get from Europe the best in the realm of academic

attainment. The academically minded are not ordinarily adventurers and the atmosphere in India and particularly in the Government service is not favourable or congenial to the academic temperament. We may hope to get the best of those who combine an adequate degree of academic attainment with the other qualities we require, but to do so we must offer reasonable pay, and what is more important, almost more than reasonable opportunities of influence and control."

That study must proceed in a foreign language seems of itself to make a university in India set itself a different standard from a university at Home. A university in Europe may be able to start, or to aim at starting, its training from the point at which its students have covered the preliminary ground, and have been taught to think closely and express themselves with some precision. This point is not ordinarily attained in India at present after four years of university study.

Further under this head I would suggest that in so far as the majority of its students are concerned the University has to realise that in present circumstances its cultural courses must be regarded as in some degree vocational. The group of occupations of which Government service is representative may well be regarded in India as a profession requiring special knowledge and a special training. It is still the task of the University to turn out the professional "English educated" man, to teach its pupils that accomplishment of correct thought and expression in English which is essential to their advancement whatever be the line of life which they adopt.

The question of resources—resources in men and money—is distracting. In the matter of money, it is difficult to proceed in the faith that funds will be forthcoming in measure sufficient to allow of anything more than a reconnaissance. In every department, the cry is that progress is starved for want of funds. Amongst other departments it is the complaint that education is the spoilt child of Government. And in education the endeavour is being made to realise western dreams in an eastern land and on an eastern budget. Even with western allotments the march would have to be tentative and slow. At Home where no policy need be starved for want of funds, progress is comparatively easy amidst a population entirely educated, ready to produce at any time the human agency required, and capable of adjusting itself with little effort to the changes which experience dictates. It is otherwise in India, where if we want money still more are we in need of men, and if we want men still more do we need the quickening spirit in the people as a whole which would make them responsive to a liberal ideal and ready to develope and keep it alive modifying it as need arose without disloyalty to its gospel to meet changing times and new conditions.

The needs of Assam which cannot at present aspire to a university of its own require special consideration.

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The very rapid advance of education in India during the last quarter of a century has led to a great deal of wrangling on many issues. Discussions on educational aims and methods have up to now taken a prior place in the interest of both the Government of India and the public. The now well-known resolution of February 1913, may be regarded as the summary of the policy of Government on matters of organisation in schools and colleges. But behind these discussions there lies a whole body of principles which have never been enunciated definitely by either Government or private individuals; and in the few lines I give below I aim merely to point out certain lines of enquiry in order to make definite these fundamental principles. The scope of my subject is a very wide one. It suggests many ramifications, each of which might well form a paper for the *Bengal Economic Journal*. In some future number of this Journal, when I have both the time and necessary material by me, I may be able to elaborate some of the points raised.

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One often hears it said that in India a disproportionate amount of the public funds is given to education. Taking the last six years we find that education has received the following share:—

	Total expenditure Imperial and provincial.	Total expenditure on education.
	£	£
1910-11	70,633,293	1,846,243
1911-12	82,835,750	2,021,189
1912-13	86,862,598	2,610,132
1913-14	85,207,175	3,176,809
1914-15	82,897,900	3,241,700
1915-16	83,117,200	3,394,800

The total expenditure on education between 1910 and 1916 has thus almost been doubled; and it was almost doubled between 1901 and 1912. In the short period 1901-02 to 1915-16 the amount given to education has been almost trebled. The national desire of the people for increased facilities for education has, it might reasonably be said, been fairly met. In spite of these figures, however, there are many public leaders in India who are never tired of asserting that the share of education, as, say, compared with that of the police, is not adequate. The extreme view on this side is represented by the demand for universal, compulsory, and free primary education. The debates raised by the late Mr. Gokhale in the Imperial Legislative Council on this point definitely extracted from Government the fairly obvious reply that the economic position of India does not admit of such at the present moment. It is an ideal to be worked up to, not something to be realised all of a sudden.

On the other hand a very considerable body of public opinion in India questions the advisability of giving so much to education. Education, says this school, is outrunning economic development, and that must mean disaster. It will impoverish the country by taking funds which should be spent on irrigation and sanitation and spending them in developing what should *succeed*, not *precede* these. For the impartial observer who wishes to mediate between these two schools it is by no means an easy task to lay down guiding principles. At least one of two misapprehensions, however, may be removed.

1. Education is a plant which can grow only in prepared ground. In any system of Government peace and security of person and property must be established before any of the refinements of civilisation can take root. Education therefore can have no share of the public funds till Government has secured its own stability by sound law, with an organised system of justice and general administration. The frequent carping at annual budgets in Bengal (with its abounding dacoities) because the amount under the heading "Police" seems disproportionate to the amount under "Education" is merely an argument for the justification of Government.

2. There is a great deal of confused thinking on the content of the term "Education." The amount placed in the budget under the heading "Education" is not the only sum given to education as a whole. "Education" does not include merely schools and colleges and things pertaining thereto. A very considerable part of the sanitation and agriculture departments properly belongs to education. In the organisation of Government it is necessary to demarcate one department from another, but such demarcation is very rarely absolute. There is much overlapping and interleaving. Much of the criticism against educational grants is disarmed because of this. A recent issue of *Capital*, commenting on, and following, the recent report of the Agricultural Department of the Government of India, pointed out that educational expenditure has been increased to ten crores for 7½ million pupils out of a total of 36 million children of school-going age. While the outlay on education is ten crores, the outlay for agricultural work is only fifty lakhs. *Capital* went on to argue that the advance of India depends on the advance of agriculture, and improved agricultural methods are of more importance than education. Eighty per cent. of the total population of India depend on agriculture, but Government instead of giving funds to agriculture gives them to universities. The same paper went on to show how more money should be spent on the Agricultural Department and quoted

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some statistics to justify its contention. India spends roughly £1 per mille of population while—

Great Britain spends	. . .	£46	per mille of population.
Queensland	,, . . .	£92·5	,, ,, ,,
Austria	,, . . .	£86·5	,, ,, ,,
U. S. A.	,, ...	£36	,, ,, ,,
France	,, . . .	£27	,, ,, ,,

None of these countries is so predominantly agricultural as India and, it was argued, as these countries are more advanced in education than India, surely India ought to spend much larger sums in instructing the 80 per cent. of her population which is dependent on agriculture.

In argument of this type there are several dangers. It is clear in the first place that the aims of "agriculture" and "education" as given in the above argument are the same. The one department dovetails into the other. They cannot be separated. The agricultural experimental farms are the equivalents of the physical and chemical laboratories of our colleges. To cut off one department from the other simply because they are separate officially is to have a very partial view of our national economy. Again, it might very pertinently be asked, is not the reason why Great Britain, France, etc., spend more money in agriculture *just because* "education" is so advanced? The Agricultural Department will have great difficulty in pursuading absolutely illiterate peasants of the validity of the laws of increasing and diminishing returns!

3. The agricultural statistics given above indicate a very grave danger in statistical argument in India. It would be easy to compile table after table of comparative statistics showing the relative amounts budgeted to education in, say, Great Britain, the United States, France, Australia and India, but to draw definite conclusions and omit all other factors—as to the present state of education, the standard of life, the characteristics of the people—merely reminds us of the well-known and very true aphorism about the three grades of lies—lies, damned lies and statistics. India is a country *sui generis*, and does not readily admit of comparison with Western States and the greatest care must be taken in working comparative statistics in India.

The statement that economic development or industrialism should precede education requires very careful analysis. In the first place it must be noted that education is a factor of production of prime importance. Much of the argument of the man-in-the street against education is founded on a misconception of the meanings of the terms "productive" and "unproductive." Productiveness, he thinks, is synonymous with mining and ploughing, *i.e.*, actually bringing forth the "produce" of the earth. The mining clerks and the capitalists he will also admit as agents of production. But school teachers, inspectors of schools and the whole organising staff of education, if not all the administrative agencies of Government, he will dismiss as unproductive. It is scarcely necessary to refute the fallacy. A primary school teacher is as integral a part of the total production-process as the coal miner. The university professor "produces" just as does the capitalist. Each has his place in the productive scheme of things.

In the second place there is a very close connection between education and the standard of life. Before 1870 in England there was a relatively high standard of living; but since the Industrial Revolution in general and 1870 in particular there has been a rapid rise. Education, democracy and an increased idea of comfort have gone hand in hand, and we see it at its maximum to-day in a country like Australia where democracy has reached its highest. In Australia the standard of life is very high, as also is the place which education holds in the public esteem. The Labour and Liberal Governments of Australia do not hesitate to pour public funds into the channels of education, for they recognise that the strength of their democracy depends on a healthy mind underlying it. I recently saw an example of Australian educational policy in the extension schemes of the Australian universities—particularly Sydney University, where I was informed the aim was to let every working man, whether in Sydney or in the "back blocks," have at least some of the benefits through books and lectures of a university education. In fact, national systems of education have been due to the Industrial Revolution. The Industrial Revolution destroyed the old individual and family self-sufficiency and threat

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ened to annihilate the very lives which brought about the revolution; it also led to a need for increased skill necessitated by new inventions. The former of these led to a national system of education, for as Adam Smith pointed out, Government alone could prevent the dangers of the degradation of the working classes by providing elementary education for the poor. The latter led to technical education. Technical education is as yet young in India; but it *is*, and much of the casual criticism of education in India is due to the fact that "education" is usually regarded as purely literary education.

The position of education at present in India is parallel to that before the Industrial Revolution in Europe. For centuries education in Europe was no more than the training of scholars. The pursuit of learning for its own sake and the advancement of culture by the studying of the past were the main aims of educated men. As Mr. Fabian Ware points out, "the interdependence of mind and soul and body, pointing to the concurrent training of this human trinity into a sound and fully developed living organism, capable of conquering the actual surroundings in the midst of which it had to exist, had been lost sight of, and was not restored to the world until rediscovered by modern science, and expressed in new formulas with added truth."

In India scholarly education has held the field up to the present to the detriment of scientific and technical education. Government has in many ways tried to cultivate technical education in its many branches but the results have not been commensurate with the efforts made; and the failures are not to be ascribed to weakness on the part of Government but to a lack of will on the part of the people.

What is the outcome? At present, the various arts colleges in India—in Bengal in particular—are crowded out, so much so that if the present rate of progress is allowed to go on unchecked there will scarcely be standing room in the colleges. Many of these colleges teach science subjects it is true, but in very few cases does the science teaching end in anything outside the legal profession or that wide scope of employment, "Government Service." Overcrowding of professions is the result, and overcrowding simply means wastage of life and public money. The weaker—and many of the weaker in the legal profession might relatively be stronger in other professions—drop out, and late in life have to start in other channels of employment. There is a considerable loss of vital force in this process, and the loss is aggravated in a particularly insidious way. Many law graduates recognising after a few years waiting, that they have little chance of success at their chosen profession, join the teaching profession. School-teaching is vitally important in the production of good workers and good citizens, and if it is in untrained or incompetent hands the whole state-fabric suffers inevitably. Workers who, trained for one line of work, have later to adapt themselves to a different line are relatively unproductive. In the meantime, of course, a very considerable amount of Government subsidy will have been spent in the *wrong* education of what might have been the right men for other purposes. The sum-total result is a lessening of the productive energy of the country, with concomitant waste of public funds and human life.

This suggests a further study, which however I cannot enter into in detail in this note. Although I have not by me a comparative table of statistics for any satisfactory number of years, I am persuaded that on general principles no Government in the world has done so much in the way of subsidy for its student citizens as the Government of India. Here I may be allowed to quote what I have written in another place (*The Calcutta Review*, April, 1915). Speaking of the differences between European and Indian student life I wrote:—

> But a more startling—and more vital—contrast between the eastern and western systems of university education is the contrast of expense. Judged by western standards, University education in India is notoriously cheap. Students in Calcutta, which is the dearest centre in Bengal, living in a mess or hostel and paying college fees at the ordinary rate, may live at a monthly expense of anything from Rs. 25 to Rs. 30 a month. In fact, it is possible for students living in cheap unattached messes and attending colleges with a monthly fee of Rs. 6 a month to have a full course of college education on Rs. 20 per month. Even taking Rs. 30 as the minimum, a student may be a B. A. or M. A. with an expenditure of £2 to £3 a month. Taking the working year at seven or eight months, the annual expenses for fees and living would

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be some £14 or £21. Of course most Calcutta students spend far more than this, but the fact remains that a university education is procurable for that expenditure. At the same time the colleges have to be properly equipped and staffed, and the various agencies in the organisation of education remunerated. It is here that Government steps in. Perhaps in no country in the world at any period in history have greater relative demands been made upon Government for education than in India. Nor has any Government been so responsive. The idea of Government subsidy which permeates the whole university scheme of things in India has led many thinking men to consider whether in this extensive subsidy of university education there is not economic danger. Education indeed is a factor of production of the first importance, but in India many other urgent factors are to be considered; and while one must always insist on the supreme importance of primary and secondary education, it is difficult to sympathise with wholesale Government expenditure on university education. University education in the West depends largely on private sources, but in India Government is looked on as responsible alike for university, secondary and primary education. State elementary education is a recognised axiom in all modern governments, but few modern governments recognise an obligation to help university till the elementary conditions of university education are secured. These conditions are, in a word, good primary and secondary schools. *When* these conditions are secure, *then* the more Government can spend on the spread of higher education the better will it be for the country. But to hesitate as to which balance the gold is to be thrown into means dissemination of public forces with consequent lack of concentration and loss of efficiency.

This same idea of subsidy pervades the university residential system. It might very fairly be argued that a student should be able to pay for a certain type of life as well as for college teaching. In Oxford and Cambridge—or in fact western universities generally—no questions are asked on this point; it is a sheer necessity. But in India there is a constant tendency to whittle at logical principles. If the university regulations lay down that a student must pay fees for lectures and if it lays down that he must live in a certain type of house, then it surely can insist on his paying at least enough for his board and lodging to ensure no loss to either university or Government. The university regulations are virtually the agreement or contract of the University with the student, and it should not be difficult for either party to abide by them. But the plea of the "exceptional case" has proved too strong. Poverty *as such* has been the cause of many a liberation from the ordinary responsibilities of college education. Poverty is a sound plea for free *elementary* education, but the only claim that poverty can put forward in university education is that poverty *with ability* should be subsidised. No one can object to a clever but poor student being subsidised, but let that subsidy be not a Government dole but a private foundation. Compassion for a poor but dull student, taking the form of encouraging him by remission of fees and expenses of living to go on for a degree which he cannot take, is a refined form of cruelty, and a clear form of social wastage. If *all* free-studentships and *all* free seats were abolished and only scholarships given on the ground of ability *plus* poverty, then at least one canker of our modern system would be removed. In many cases there might seem to be hardship, but the rule is a salutary one, and once made it would have to be observed. Beyond that, *de minimis non curat lex.*

In his Convocation Address in January 1906, Sir Alexander Pedler spoke similarly. In detailing the causes of the want of practicalness in Calcutta University, Sir Alexander said:—

"The third cause....is one....which is absolutely detrimental to anything like really efficient work in high education. I allude to the desire, which has actually become to a large extent an accomplished fact in Calcutta, of

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making university education so cheap that it can be availed of by the children of even the poorest parents. And when I say that the average annual cost of education in all our Bengal colleges of a student in reading the arts courses is only about Rs. 125, or about £8, it will be seen how cheap it has been made. I also quote from my own annual report the cost of education of each student in three principal first grade colleges in Bengal managed by Indian gentlemen. The figures are twenty-seven (Rs. 27), twenty-nine rupees (Rs. 29), and thirty-two rupees (Rs. 32), or say roughly the cost of such education was two pounds sterling per student for the year 1904-05. We need scarcely compare this cost with that of an English student attending Oxford or Cambridge. I would ask, is it to be expected that an efficient university education for a degree can be provided for such an amount? How can really efficient university education be given for £8 a year, and much less for £2 a year.

How can, for instance, science be taught with laboratories, together with appliances for lectures and for the use of students for £2 or even £8 per head per annum?"

For anyone who cares to take the requisite trouble it would be a very interesting study to analyse the relation between the current standard of life in the middle and lower classes of different countries and the expenses of university education. I am afraid that India would not fit well into a comparative table. At the beginning of this note I pointed out that the total expenditure on education has multiplied threefold since 1901. A notable feature of the figures is that the expenditure on education from public funds has increased in percentage while the percentage contributed by fees has fallen. The former has risen from 43·9 per cent. to 51·5 per cent., the latter has fallen from 56 per cent. to 48·5 per cent. This may indicate indeed a laudable advance in primary education; but one cannot but hesitate in giving approval if it applies to university education too. University education is not meant for the masses: it is for the able few and "able" implies mental and financial ability. Nowadays mental ability is usually well enough subsidised; but to subsidise university education as a whole without discrimination implies an appalling loss. The wastage of life and effort I have just alluded to is obvious; but there is another and very subtle wastage I have not yet mentioned. The present attitude whereby Government is regarded as the spoon-feeding father and mother leads to a loss of personal effort on the part of both parents and students which muo added to the already big loss of national efficiency-force. Unrewarded ability is unecnomic; but it is certainly not half so deleterious as laziness and incompetence bolstered up by subsidies. There is also the lack of stimulus to private enterprise; while finally there is the diversion of public funds into relatively uneconomic and unproductive channels. Professors and teachers have to be paid to teach and examine much material which should never come before them. Take a simple example. If 15,000 students appear at the matriculation examination and 5,000, or 33·3 per cent. pass, it is obvious that there is wastage of energy not in one but in many directions—on the part of examiners, organisers, teachers, and students. An inefficient scheme of education thus is uneconomic from beginning to end. Not only is it uneconomic, but it is *unpolitical*; if I may coin a word to express the danger to citizenship. A good system of education is to be judged, as Fitch pointed out, not by the number of its failures but by the number of its successes.

I have far exceeded my limit of space in this note. The remedies —raising standards of examination or raising school or college fees, making training colleges efficient for the production of efficient teachers, the raising of the pay of teachers, and so on, I leave for the present; I trust that some one may take up some of the lines of enquiry suggested and give them to the public in some future issue of this Journal.

I.—History of the present Calcutta mess scheme.

The Calcutta mess scheme may now be said to have passed the experimental stage. The messes are definitely established institutions, and form an integral part in the college life of both Calcutta and the Mufassal. For about the last ten years special machinery has been in operation for the development of messes. The first attempt to establish an ordered scheme was made in 1904

Mr. Russell's Report, 1904.

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Before then both hostels and messes were in an unsatisfactory position, the messes especially being in a chaotic state. Mr. Charles Russell, then Assistant Director of Public Instruction, on the 31st August 1904 submitted a report on the working of the hostels and messes at that time. Mr. Russell's survey was confined to the Calcutta institutions, the state of which had been causing considerable uneasiness to all the authorities concerned. Mr. Russell visited the local hostels and 33 messes, and in his report showed the messes to be in a deplorable condition. He reported that the rules which had been laid down by Government were not heeded. There was no semblance of order or discipline in the messes. Many of the messes were situated in most undesirable quarters of the town, and undesirable women were often employed as servants. The messing arrangements, he reported, were in a similarly disorganised state: in fact, in every respect there was the negation of system and discipline.

Difficulties of reform.

Mr. Russell recognised the difficulties in the way of reform. It was not easy to bring discipline to bear on these messes, he said, for discipline was not liked by the students, and if the rules were strictly enforced the students would avoid them by the simple expedient of going to messes where no rules existed. Mr. Russell also objected to the type of rules then in existence, which, he said, were too elaborate to be practical and not elaborate enough to be of real value. He also pointed out that students of various colleges often lived together in one mess, with the result that there was no control of any one college in that mess. He further pointed out that rigorous control might lead to the loss of students, which in the case of private colleges especially would be somewhat disastrous, as it would lead to loss of income.

Mr. Russell's suggestion.

Mr. Russell in suggesting reforms laid down this axiom for universal acceptance, *viz.*, that every college principal be definitely responsible for the housing of every student of his own college who does not live with his parents; this implies that each principal must license and rent houses for his own students: in other words, Mr. Russell wished to establish a college residential system as far as possible in Calcutta.

Objections to it.

Many objections were brought against Mr. Russell's proposals. One of the most cogent was that if his principle were accepted "district messes" would be done away with. Students from one district attending various colleges in Calcutta often formed messes by themselves; and were each principal responsible for the students of his own college, the result would be disruption of these district messes. Mr. Russell pointed out that the principle would be hard in the case of brothers who were reading in different colleges. He suggested that special cases might be made out for these. He also pointed out that there would be considerable risk in the case of colleges which rented houses and were not able to fill these houses, as the rent recoverable from the students would not pay the full rent of the house. Mr. Russell suggested that this might be avoided if a heavy penalty were attached to students who, once having taken admission to one mess, afterwards withdrew to another. Mr. Russell made certain proposals for the management of hostels, and along with these he gave a complete scheme for the superintendence of hostels and messes.

The question of superintendence.

He considered that superintendence by the professors of colleges would be a heavy task on men who were already overburdened with work. It would cripple, he said, their proper professorial work, for if they were to discharge effectively the whole of the functions of superintendence they would have neither time nor energy to prepare the next day's lectures, much less to carry on any serious study of their subjects. Further, the work of superintendence might not be to the liking of professors. Superintendence would be very irksome and unpleasant in many cases; and, he added, a merely perfunctory performance of them would be fruitless of good results. Mr. Russell suggested that the additional work might be made up by lengthening the vacation, a suggestion which however was not adopted. Mr. Henry Stephen, then acting principal of the Duff College, likewise said—

Mr. Russell's opinion.

Mr. Stephen's opinion.

> I venture to think that any real efficient superintendence of students' messes by professors and principals of colleges generally would, if practicable at all, impose too heavy a burden upon a class of men already overburdened. Their primary duty is to do their utmost to educate the young men; and after

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that little time and strength is left for following them over through the length and breadth of the city to their temporary residences."

Mr. Stephen (in his note, dated the 26th August 1904) emphasised the necessity of licensing messes and the advisability of some sort of superintendence and hygienic oversight.

The Rev. Mr. Wann's suggestion.

Mr. Wann, the principal of the General Assembly's Institution, in a letter, dated the 5th September 1904, suggested the appointment of an inspector of hostels and messes in Calcutta. The idea of Mr. Wann was afterwards adopted, although not exactly in the form that he suggested. The Director of Public Instruction, on the 2nd of October 1904,

An *ad hoc* committee.

proposed a conference of the heads of institutions of Calcutta to discuss the position. A circular was issued by Mr. (now Sir Archdale) Earle on the 26th November 1904, asking a number of people, mainly heads of educational institutions, to discuss the measures that should be adopted to improve the messes and hostels. A meeting was held on the 1st December 1904, with Mr. (afterwards Sir Alexander) Pedler, then Director of Public Instruction, as Chairman, followed by a second meeting on the 5th January 1905. The Committee

The recommendations of the Committee.

recommended that Government should hire a certain number of houses to be used as messes for the various colleges, each college being provided with a mess of its own. They suggested that Government should take the entire financial responsibility of hiring the houses, and that the college authorities should be responsible to Government for collecting the rent from the students and paying it to Government. The rate per student was roughly estimated at Rs. 3-8 a month for 12 months in the year. The number of students then to be accommodated in the messes being reckoned at 1,600, it was considered that Rs. 67,200 would be a liberal estimate

Government action.

of the amount to be found in rent annually. The Government of Bengal approved of the Committee's recommendation and accepted the financial responsibility for the scheme; and although it was anticipated that Government would realise from the colleges the whole of the amount expended on rent, it was considered advisable to provide in the budget for a possible loss of Rs. 10,000 in the first year of the experiment. Government accordingly directed (in Government order No. 336, dated the 23rd January 1905) that Rs. 57,200 and Rs. 67,200 respectively should be provided on the receipts and expenditure sides of the Education Budget for the year 1905-06.

The Committee recommended that Mr. Tipping, then professor of English in Presi-

Subsequent organisation.

dency College, assisted by Babu Phanibhushan Basu, then Assistant Inspector of Schools, Presidency Division, should be appointed to draw up regulations, select and assign houses, and generally supervise the inauguration of the system proposed, under the guidance of Government. Other proposals of the Committee were that all the existing hostels other than those which were attached to colleges should be carefully examined by a representative Committee, and that students who wish to go to hostels other than those which were attached to colleges should be allowed to go to those hostels only which were recognized as suitable by the Committee. It was proposed that a permanent Committee should be constituted, but that proposal did not reach fruition. The principle which led the Committee to make the recommendation was that students should live either with their parents or recognised guardians, or in a college mess, or in a recognised hostel. The Committee did the necessary work of investigation, and Government accepted their proposals.

Government also sanctioned the Committee's proposals that an inspector of hostels

Appointment of an inspector of hostels.

should be appointed in Calcutta. A Provincial educational officer (Class VII) was appointed on Rs. 300 a month with an allowance of Rs. 30 for travelling and other expenses. This was sanctioned on 12th December 1905, and Government appointed Mr. Tipping as general supervising officer, to whom reference was to be made in special cases.

In March 1906 Mr. Tipping submitted a report for the year 1905-06 and proposed

Mr. Tipping's report and subsequent action.

certain improvements. Mr. Earle, then Director of Public Instruction, convened a conference of principals of colleges to discuss Mr. Tipping's report. Mr. Tipping in his report sug-

GILCHRIST, R. N.—*contd.*

gested the appointment of superintendents, a subject which has since created much discussion. The subject was brought to the notice of Government by Mr. Earle, who, acting upon Mr. Tipping's report declared that it was necessary to have superintendents to supervise the messes. If the mess scheme was to be effective, he said it was essential that messes should have adequate superintendence; and he pointed out also that it would be necessary to give remuneration to the superintendents. The principle of payment was admitted, but it was thought impracticable to cover the extra expenditure involved by levying fees (which would have been new charges) from the students. Mr. Earle also said that the colleges could not afford to pay the cost themselves, and accordingly recommended that Government should bear the cost. Several superintendents of messes were to receive salaries varying from Rs. 15 to Rs. 20. In each case the officer selected as superintendent was to be either a professor, or a teacher, or a graduate, or some other responsible person selected by the principal of the college concerned. The total cost on account of the salaries of the superintendents now recommended was Rs. 3,350 a year. Superintendents were to be paid for only 10 months in the year. Another important point arising from Mr. Tipping's report on which Mr. Earle made definite recommendations was regarding seat-rent. The original proposal was that each student should pay Rs. 3-8 a month for 12 months in the year. This, however, it was not found possible to enforce: the actual rates charged were Rs. 3-8 and Rs. 2-8 according to the accommodation provided. It was now decided that in future the rent should be levied for only 10 months in the year in the case of all students. It was decided however that the rent should be per student Rs. 4 and Rs. 2 (upper floor and lower floor accommodation). This proposal was sanctioned on 10th September 1906 in Government letter No. 2949.

Superintendence.

Question of payment of superintendents.

Seat-rent.

Mr. Tipping in his report made some pointed remarks—which apply equally now—on the difficulty of finding suitable superintendents. Superintendents, he said, should be men able to command respect, and, if possible, should be members of the teaching staffs of the colleges. Most of the professors appointed, however, were married men living with their families and they naturally preferred the comfort of their own homes to the exiguous quarters and harassing life of a students' mess. He referred also to the still unsolved difficulty of payment of salary to superintendents. Free quarters for superintendents had, even before Mr. Tipping's report, been sanctioned officially, but salary and food had to be provided for. Salary in some cases was made a charge on the mess, but that arrangement was most objectionable, Mr. Tipping said, inasmuch as it placed the superintendent in a rather invidious position. It made the master really a servant. If the superintendent's food had to be provided from the mess, the students might attempt to starve their superintendent by subjecting themselves to famine diet (Mr. Tipping quoted an actual instance of this). Mr. Tipping mentioned also that in the absence of superintendents, frequent visits by the professors of colleges would go a long way towards solving the difficulty. This counsel about professorial visitation has always been one of perfection. Professors now, just as eight or ten years ago, give messes a wide berth. In some cases, it is true, professors do visit the messes, but even then the visits are very few.

Difficulty of finding superintendents.

This scheme proposed by Mr. Earle was sanctioned by Government for a period of four years, as an experimental measure, from the 1st June 1906. Government agreed to bear the expenditure of the college messes in Calcutta during these four years. At the same time Government drew the attention of the Director of Public Instruction to the hostel policy laid down by the Government of India, *viz.*, that hostels should be self-supporting. The principle which the Government of India applied to hostels was held to be applicable equally to the messes. Government accordingly reserved to itself the right of reconsidering its position in regard to messes, and to withdraw any aid if Government so wished after the experimental period has elapsed. The direct aid of Government was to be confined mainly to assisting colleges to build or purchase and equip hostels and messes. In the Director of Public Instruction's letter No. 1195 of the 13th January 1906 it was reported to Government that the policy that all the students' messes should be self-supporting was not possible of attainment

The scheme sanctioned.

at that time. The hostel system, it was pointed out then, required careful nurturing, and it was held to be a great mistake to be too strict at first. All these arguments have been repeated year after year in Government files, but the main one—*viz.*, that hostels require nurturing still—I can, after hearing many opinions on hostels, definitely state to be no longer valid. The hostel system is not in the baby stage any longer. It is grown up, though not yet fully developed.

The transfer of the messes to the University.

The next landmark in the history of the present mess scheme is the transfer of the messes to the University. The proposal for the transfer was made by Mr. Earle, then Director of Public Instruction, in his letter No. 4519, dated the 9th March 1907, in these general terms:—

> "The grant should be sanctioned on the distinct understanding that the University will do its best as Government itself has done, to recover the rent in full as far as possible and thus to render the scheme self-supporting at as early a date as practicable. It should also be sanctioned on the understanding that if in fact the expenditure involved does not equal the amount of the grant, the balance will not be available for other expenditure but will lapse to Government. The grant should be made on the understanding that the scheme as initiated by Government will be substantially adhered to and that no material deviation from it will be undertaken without the sanction of Government."

Reasons for the transfer.

The reasons for the transfer of the mess scheme to the University were many. In the first place, an understanding had existed when Government undertook the mess scheme that the University would take over the scheme as soon as the Calcutta University regulations came into force. Chapter XXIV of the university regulations contains the general guiding rules for the conduct of all hostels and messes. The control over college students under these regulations passed from Government to the University, and the Students' Residence Committee referred to in regulation 5 of chapter XIV took over practically all matters connected with the residence of students. The position of Government in relation to the residence of college students was converted from that of direct manager to that of a public body which provides funds for certain messes, as laid down in the university regulations.

Another reason was this. As Government had no direct control over the students in the colleges, it was impossible for Government to compel students to reside in messes. The success that did attend the scheme when it was under the control of Government was largely due to the active co-operation of the principals of Calcutta colleges. The lack of direct authority on the part of Government was undoubtedly a stumbling block to the realisation of success in the scheme; and Mr. Earle emphasised this point in particular as being absolutely detrimental to Government continuing its control. He contended that the authority of Government would, if Government retained the scheme in its own hands, steadily diminish. The Calcutta University regulations recognise two kinds of messes—attached and unattached—and students may also in certain circumstances reside in private lodgings. Mr. Earle was anxious to encourage attached messes in particular, because, as he said, they conform to the idea of a hostel, in that each mess is attached to one college; and the students living in such mess must be students of one and the same college; and as such the principal of the college has full control over the mess. The scheme for attached messes could be made entirely unworkable if the Students' Residence Committee were to license many unattached messes or permit many students to live in private lodgings. It was unlikely, said Mr. Earle, that the Committee would do either of these things; but he considered that there would be a danger of their doing the former unless the entire responsibility in the matter of residence of students was handed over to them. Grant them the sole authority, he said, and they will speedily realise the necessity of being careful in the exercise of their powers in the matter of licenses. I wish to make especial reference to the above quoted remarks of Sir Archdale Earle's letter for two reasons. In the first place, after surveying the present mess scheme in Calcutta, both Mr. Banerjea and myself, backed by the opinion of all responsible authorities, hold

Mr. Earle being eager to encourage purely collegiate residences, regarded single control by the University as essential to that end.

strongly that the attached mess system should be extended so as to house as far as possible all students not in college hostels or their own houses. In other words, we consider that the private lodgings system and the unattached mess system should be abolished as quickly as possible. Secondly, the reason given for the transfer of the messes to the University, *viz.*, the sole control of the University, has been justified by subsequent events. The University has succeeded in encouraging the idea of the attached mess; but, on the other hand, the University is forced to limit the extent of the attached messes by the present inelastic Government grant, which is the skeleton holding the tissues together. Mr. Earle's detailed proposals for the transfer were that the sum of Rs. 9,000 per annum, which represented the loss to Government by non-recovery of rent on account of the messes scheme, should be made over as an annual grant to the University with certain conditions which need not be mentioned here. In connexion with the payment of superintendents which had previously been undertaken by Government as a temporary experimental measure, Mr. Earle now proposed to hand over the control in this matter to the University, and to grant Rs. 3,750 a year to the University on this account. He also proposed to meet the charges for the upkeep of the office of the inspector of messes.

The proposals sanctioned.

Mr. Earle's proposals were sanctioned in letter No. 69-T.—C., dated the 15th April 1907. Government in agreeing to all the proposals made by Mr. Earle stipulated that the University should arrange in consultation with Mr. Earle for a proper audit of accounts. Government also made arrangements for the transfer of an officer in Class II of the subordinate educational service to the post of inspector of hostels and messes. Mr. Earle's proposals have been, roughly, the basis on which the messes have been managed. Year after year the grant of Rs. 9,000, *plus* the other items, has been renewed, with various additions and modifications.

The position in 1909.

The actual basis of the present system is contained in Government letter No. 2698 of the 27th July 1910. The stages leading up to this letter are very interesting and instructive, the positions for which each side argued then being the same still. Mr. James, Officiating Director of Public Instruction, in his letter No. 7880, dated the 27th September 1909, forwarding certain proposals about mufassal colleges which had been given the benefit of the new scheme, pointed out that although a considerable advance was made towards the principle that hostels should be self-supporting, in view of the fact that the residential idea required practical encouragement it would be disastrous if Government were to withdraw itself at that stage. He accordingly asked for a continuance of the usual grant, a request which in Government letter No. 4788 of the 20th December 1909 was sanctioned. Government however definitely refused to accept the view put forward in Mr. James's letter that charges of supervision of messes and hostels and the cost of medical attendance should not ultimately be recovered from the hostel fees. Government agreed to bear these charges to some extent for a few years longer; but approved at the same time that these grants could not remain permanent charges on the Provincial revenues.

The Hon'ble Mr. Küchler's survey and proposals.

Mr. Küchler, Director of Public Instruction, in his letter No. 2833, dated the 21st February 1910, stated that the losses on account of seat rents amounted in the year 1910 to Rs. 16,077 as against Rs. 11,051 in 1909, and Rs. 6,972 in 1907-08. It was evident from these figures that Government was called upon to meet the progressive rise in the loss of seat rents. It was originally estimated that the deficit would not exceed Rs. 9,000; but even before the University assumed control over the scheme the figures had been exceeded in the year 1906-07, when the cost to Government was Rs. 12,389: the increase of course was due to the rise in the number of students. I wish to mention these figures, which may appear very redundant, to establish the necessity of a more elastic system than at present exists. The sum totals of deficits of each year are not particularly illuminating, but examination of these figures shows that Government was paying a smaller sum per head than at the time of the transfer of the messes to the University. The sum per head paid by Government has declined since. The rise in deficit of rent, however, as shown in Mr. Küchler's survey, was not in proportion to the rise of the numbers of students. Special and valid reasons were advanced by the University to explain them. The main reason was the general rise of house rent in Calcutta, while the seat rents of students remained fixed. Several other reasons peculiar to the circumstances also operated. One

of these was that house owners considered that houses occupied by students were more liable to damage than when occupied by ordinary residents. They accordingly asked for bigger rents—not without reason. Further, not every house was suitable as a students' mess. It is obviously desirable that messes should be as near to the college as possible, and houses are not easily available in many cases for that purpose. Further, the Students' Residence Committee then, as now, insisted on a certain standard of sanitation, airiness, and light. And of course they had to take great care that no house was situated in undesirable quarters with undesirable surroundings. Landlords were not slow to recognise these things and to enhance the rents because of them.

In connection with the payment of superintendents, Mr. Küchler took the bold step of refusing any more Government contributions on this head. The University had asked for an increased grant of Rs. 2,100 on account of the cost of ten additional Superintendents engaged during that year. Mr. Küchler however suggested that further the University should be asked to make such arrangements as they thought proper for the appointment of superintendents, without expecting to receive a grant from Government. The burden, he said, need not fall upon university funds, as there were no good reasons why the colleges themselves should not bear the pay and the allowances of the superintendents of their own messes. The proposals sanctioned by Government in letter No. 574 T.—G. of 19th May 1908 were—

(i) That Government give a grant to the University during the *current* year of Rs. 19,350 instead of Rs. 9,000 in respect of the deficit on house rents, and Rs. 3,750 to meet the cost of the allowances for superintendents.

(ii) That Government indicate its willingness to sanction the continuance of the scheme for a further experimental period of three years, and authorise the Education Department to negotiate with the University for their continuing the charge for that time on the following conditions :—

The proposals sanctioned.

(*a*) That Government should assign annually to the University a sum equal to the estimated difference for year between the sums paid by the university for the rent of the house taken for messes and the sums realised in seat rents, subject to a maximum of Rs. 9,000 in any one year.

(*b*) That the University should do their best during the experimental period to cause the scheme to approximate more closely to self-support, and that they should be empowered, in consultation with this office, to raise the seat rents charged to students or take such other steps as are calculated to secure progress towards the end in view. In the first place the following modifications might be given effect to :—

(A) That rent should be paid by the students for twelve months in the year.

(During the year then current this would have brought an increase of almost Rs. 5,000 in the income of the scheme.)

(B) That the rent for lower berths should be raised from Rs. 2 to Rs. 3 per month.

(During the year then current this would have brought a further increase of Rs. 2,400.)

(C) That in the event of further accommodation than was required for any particular college having been asked for by that college, the authorities of the college should be bound to pay to the University at the ordinary rates for the accommodation unoccupied up to the limit of excess of their demand.

(The financial effect of this measure cannot be determined, but it was expected that it would probably result in an economy which would still further reduce the balance payable by Government, the other changes suggested having already brought it below the previous estimate of Rs. 9,000.)

(iii) That Government should make no grant whatever in respect of the allowance of superintendents.

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(iv) That the University should be allowed to appoint their own officer as inspector of hostels and messes and their own office establishment, the inspector of hostels and messes being paid at the rate of Rs. 200 a month rising to Rs. 250 a month by annual increments of Rs. 10 with a conveyance allowance of Rs. 30 a month, and that Government should make an annual grant to the University of the amount of this officer's salary and conveyance allowance at the foregoing rates, and a further grant of Rs. 768 a year for the establishment and contingencies of the office as originally sanctioned in Government letter No. 574 T.—G., dated the 19th May 1908.

The position of the University.

These proposals, however, were subjected to severe criticism by the Syndicate, and I quote both proposals and criticism to show the different attitudes of Government and the University. The Syndicate declared that they could not carry on the scheme on the lines suggested by Mr. Küchler. They resented in particular the suggestion now made that the seat rents of students should be raised. The Syndicate declared point blank that they were not prepared to raise the seat rent, as the students were already asked to pay more than what they conveniently could. The Syndicate consulted all the principals of colleges, and the principals, it seems, declared that the rate of rent then demanded from the students was in their opinion the maximum possible. The students could not possibly afford more, for the students were declared to be poor: so poor indeed that the addition of a rupee or two taken for seat rent would mean diminution in the primary necessaries of life—food and clothing. It was said that if the additional fees were levied the students would go to live in some cheap, but most likely undesirable quarters of the town. The Syndicate also pointed out that the fees were fixed at Rs. 4 and Rs. 2 (for upper and ground floors respectively) in order that the expenses of living in attached messes should not exceed the expenses of living in unattached messes. The attached messes were then comparatively full, while there were very few students living in unattached messes. It was stated that about 900 were living in attached messes and 83 in unattached messes, and it is interesting to compare the present position. At present there is an extraordinarily large number of unattached messes, and although the number of students living in unlicensed messes has not been reckoned, it is stated to be large. It was stated in the letter of the University containing these representations that "unattached messes have all along been viewed as nothing more than very imperfect substitutes for attached ones,—as, in fact, constituting a rather undesirable feature of the mess scheme, the elimination of which, as early as might be, should be steadily kept in view." The Syndicate threatened that unless the Government agreed to pay the difference in the rent paid and the difference in the rent recovered from the students, they would withdraw from the scheme altogether. The Syndicate remarked that it would be very undesirable if the attached mess system were discontinued. They did not like, they said, the prospect of students living in unattached messes, nor did they relish the students finding some sort of guardians for themselves in order to satisfy the regulations. Finally, in the Government letter No. 2698 of the 27th July 1910 the following revised scheme was sanctioned:—

The final conditions.

(1) that a sum of Rs. 9,000 be paid by Government to meet the deficit on account of house rents;

(2) that the University be allowed to appoint their own officer as inspector of hostels and messes on a salary of Rs. 200 rising to Rs. 250 by annual increments of Rs. 10 with a conveyance allowance of Rs. 30 a month, and that Government should make an annual grant to the University of the amount of this officer's salary together with conveyance allowance at the foregoing rates, and a further grant at the rate of Rs. 768 a year for the establishment and contingencies of this officer;

(3) that for the year then current the seat rents should be raised by annas 8 per head in the case of upper floor rooms and by Re. 1 per head in the case of ground floor rooms, and that the charge should be levied for 10 months only;

(4) that the University should make a grant of Rs. 10,000 towards the scheme out of the sum of Rs. 80,000 received by them from the Government of India for the purpose of assisting private colleges;

GILCHRIST, R. N.—*contd.*

(5) that deficits incurred in the management of the messes attached to the Medical College, Presidency College, Madrassah, and the Sanskrit College should be borne by Government; and

(6) that any balance of the cost of the scheme that may be left unpaid after the above proposals are given effect to should be met by Government.

II.—The present system.

Such is a brief history of the messes scheme. I have tried to show the various difficulties which have arisen in the past with a twofold object: first because there are certain misapprehensions to be removed; secondly because the lessons of the past point to the difficulties in the way of reform. I now proceed to give an account of the present working system.

Controlling agencies.

The system which has just been outlined regulates the relations of the Government and Syndicate in the matter of messes. Beyond giving these grants, Government takes no direct part in the present mess scheme. The fifth head of the above scheme—that deficits incurred in the management of the Medical College, Presidency College, Madrassah, and Sanskrit College messes should be borne by Government—rules the messes of Government colleges out of the scheme altogether.

The central and controlling body in the present scheme is the Students' Residence Committee, which is responsible to the Syndicate. This Committee (*vide* university regulations, chapter XXIV, sections 4 and 5) is composed of six fellows, of whom three at least must be Indians, and is elected annually at the annual meeting of the Senate. The Committee is chosen in such a way as to be authoritative on its subject. A medical member is always appointed, his duty being to examine the sanitary conditions of messes and houses proposed as messes.

Working along with this Committee is the mess inspector. He, according to the rules mentioned above, is a university official, and his salary and office expenses are met by Government.

Kinds of residence allowed.

Each college affiliated to the Calcutta University may, according to the university regulations, have several types of residence for its students. The type of residence is the hostel; but as hostels are too few to accommodate the number of students, the university regulations (chapter XXIV, section 3) lay down that "The following classes of lodgings may be approved by a college:—

(*a*) Non-collegiate hostels, that is hostels under external management.

(*b*) Messes attached or unattached.

(*c*) Private lodgings."

All these lodgings are supplementary to the hostel.

The working system.

Before the colleges close for the summer vacation principals of colleges are asked by the Students' Residence Committee to furnish an estimate of students likely to reside in attached messes in the coming academic year. On this estimate as a basis the inspector of messes proceeds to make arrangements for the housing of the students. Leases of houses are renewed, and new houses, if required, are engaged during the vacation. Everything being satisfactory, the lease is signed, and the inspector proceeds to measure the rooms and allot seats according to a certain standard of cubic space. A few days before the colleges reopen after the vacation the houses are made over to the college authorities for occupation by students. This is the procedure adopted in the case of attached messes. In the case of unattached messes the students themselves engage the houses, and they themselves have to pay all the rent without any help whatsoever from the Students' Residence Committee. The unattached messes, however, are registered by the Students' Residence Committee and come under the university rules.

Before leases are made, the Students' Residence Committee must be satisfied on the following points:—

(*a*) The sanitary condition of the house.

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(*b*) The situation of the house as regards the college, *i.e.*, whether the house is near the college or not.
(*c*) The suitability of the neighbourhood.

The medical member of the Students' Residence Committee decides the first of these points, the inspector of messes reporting on the second and third heads. Attached messes are, if possible, in close proximity to the colleges to which they are attached; and for obvious reasons houses with *bustī* surroundings or houses in close proximity to places of public amusement are undesirable.

Within a month or six weeks after the commencement of the session, applications are made by the principals of colleges to the Registrar of the University for licenses to their respective attached messes. In these applications the measurements of the rooms, the names and qualifications of Superintendents or Assistant Superintendents, and any other relevant details are given. Licenses are required alike for attached and unattached messes, and non-collegiate hostels. In the case of unattached messes the principal of any college may forward the application, and for non-collegiate hostels (like the Oxford Mission hostels) the application comes from the Superintendent. These applications are considered by the Students' Residence Committee, who grant or refuse licenses according to the reports of the university inspector. The proceedings of the Committee are subsequently confirmed by the Syndicate.

The inspector of messes during the terms pays visits, of which no previous notice is given, to the attached and unattached messes and to the non-collegiate hostels; and if he finds any irregularities he reports them at once to the principals of colleges. Such irregularities are—

(*a*) Omission to call the roll.
(*b*) Lack of proper entries.
(*c*) Harbouring outsiders such as clerks, non-university students, and business men.
(*d*) The absence of superintendents from the messes without notice.

In unattached messes students of two or more different colleges reside together. To meet the university rules they elect one of themselves superintendent, and having done so, they apply to a principal of a college for license. The principal in his turn countersigns the application and sends it on to the University. College principals have to approve of the superintendents of unattached messes, but this approval is mainly nominal. Non-collegiate hostels are under the external management of proprietors and admit students of different colleges. They are permanent boarding houses, and in matters of discipline the college authorities have no control whatsoever. They are like unattached messes, but as a rule the superintendents are men of high standing, several of them in Calcutta being Christian ministers.

Hostels.

To review the hostel system is not within the scope of this inquiry. I regard hostels as the norm of students' residence, and as such it must be a standard of comparison. From the various inquiries I have made I can say definitely that the benefits of the hostel system are now fully recognised by both college authorities and students. The hostel is invariably placed first in any preference list of students' residences by college principals and professors. This is scarcely a matter for wonder, because the present hostel system has attained in most cases a very considerable degree of efficiency. The buildings are erected for a specific purpose, and being used for that purpose solely they are usually sound in all respects. The sanitation in particular is relatively sound, and the superintendence ensures a high level of order and cleanliness. Both professors and students give a regular gradation of preference for residences. That gradation is: first, hostel; second, attached mess; third, unattached mess; fourth, the nondescript residences (in unlicensed messes or with nominal guardians). But the real value of the hostel does not lie in the fact that it is usually a well-built, sanitary house. The hostel is a *college* hostel. The students themselves, who might be expected to prefer the unattached mess system because of its freedom from control, on the whole desire hostels. They wish to be *college* students in every sense of the term. Whichever college students belonged to, they declared to me that

they would prefer a hostel to the attached or unattached mess. As members of unattached messes especially, students feel themselves members of a college only in a very vague way. Students always add, however, the qualification "if cheaper"; but even taking this into account, one is very gratified to find in the student community a pride of college, repressed even though it is by their conditions of life. The various inter-collegiate competitions in sport have undoubtedly tended to make students assume, and take pride in, a college identity. This spirit, it is universally proclaimed, should be fostered as much as possible, as it will elevate both students and colleges: and one of the best methods of doing so is to have students residing in a house, be it hostel or mess, which has a college connexion—a connexion which must be with *one* college only. This is, indeed, the central reason for advocating hostels, and, strong as it is, it has quite a battalion of reinforcements. The lack of the collegiate idea is a glaring disadvantage of the unattached mess, unlicensed mess, and "guardian" systems. With these I proceed to deal in detail below.

The collegiate idea.

To achieve purely collegiate residences implies the abolition of three kinds of residence: first, the non-collegiate hostel; secondly, the unattached mess; and thirdly, unlicensed messes.

Means to secure collegiate residences.

The non-collegiate hostels which are recognised by the university regulations are as the name implies, hostels which receive students of various colleges. They, like the messes, are supplementary to the collegiate hostels, but by reason of their excellent management they are sometimes set down as first preferences by students. Outstanding among these non-collegiate hostels are the Oxford Mission hostels, which are regarded as a model by college authorities and students alike. Hostels of this type usually receive liberal grants from Government: in fact, *mutatis mutandis*, they are treated like college hostels, although several of them are really unattached messes. The logical conclusion of the collegiate theory given above is that non-collegiate hostels be abolished, but the actual conclusion must of necessity be quite different. Non-collegiate hostels cannot be put out of commission. Far from it: they may have a very definite place in the scheme of things. I hold that each college should have hostels to accommodate its own students *as far as possible*. But in Calcutta colleges there will always be a considerable overflow from hostels, either from a sheer excess of numbers, or from such reasons as race, religion or caste. The only recognised institutions for such an overflow, I hold, should be non-collegiate hostels. The normal residence for a college student should be a *college* residence, *i.e.*, a hostel, or the first reserve to the hostel—the attached mess. Beyond these, the only other institutions that may be recognised are the unattached hostels.

Non-collegiate hostels.

The Dacca University scheme definitely states that students will have to reside in college rooms. Up to now there have been one or two non-collegiate hostels in Dacca, and these under the new scheme will be in a very awkward position. They have been definitely established, both by the authorities immediately in charge, and impliedly by Government—which has given grants for them—for the purposes of college students. If they are thwarted of their purpose naturally there will be considerable uneasiness. In Dacca this question is an urgent one: in Calcutta at present the question is of minor importance. The future for these hostels seems to lie either in diverting their work from college students to school boys, or in giving them a special *locus standi* either in reference to individual colleges or the University. I would suggest that all future Government grants for the building of such hostels keep this in view.

The Dacca University and non-collegiate hostels.

At present the non-collegiate hostels in Calcutta come within the jurisdiction of the Calcutta messes authoritie. Th ey are eight in number, *viz* :—

Calcutta non-collegiate hoste's.

The Oxford Mission Hostel.
The Baptist Mission Hostel.
The Oxford Mission Medical Students' Hostel.
The Uriya Law Students' Hostel.
The Buddhist Hostel.
The Baker and Elliott Madrassah Hostels.

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From what has been said above, it may be judged that these hostels are in a somewhat anomalous condition. They are not collegiate, and as such do not foster pure collegiate life. In this respect they are like unattached messes. Students from any college may recieve admission to them. They are like hostels proper, in so far as the buildings are usually (but not in every case) specially erected for hostel purposes. As I have already noted, some of these hostels are models in management and superintendence. Some of the non-collegiate hostels are really private houses hired for special purposes, *e.g.*, the Buddhist hostel and the Uriya Law Students' hostel. In such cases a responsible superintendent manages the hostel, but the students are of different colleges. The names of some of these hostels suggest the reason for their existence. The Uriya Law Students' Hostel exists for its nominal purpose, and is subsidised by the Government of Bihar and Orissa. The Buddhist Hostel exists for Buddhist students. Each of these is a hired house. In the one case (the Uriya Hostel) the hostel is merely an attached mess; in the other (the Buddhist Hostel) an unattached mess. The name *hostel*, it must be noted, is used in a very arbitrary sense,—a point of much importance, as official literature tries to bind it down to the house specially built for hostel purposes. Here we have two institutions with all the characteristics of messes called hostels.

Non-collegiate hostels are nominally under the Students' Residence Committee. Like the messes of Government institutions, they are visited by the mess inspector, but their management is distinct from the general scheme of messes. Hence we need not reckon them in dealing with the messes whose financial arrangements are governed by the Students' Residence Committee. Government will continue dealing with the real non-collegiate hostels separately; but in cases like the Uriya Law Students' Hostel and the Buddhist Hostel the Students' Residence Committee might be made the agency for distributing any grants.

Sectarianism.

There is still another reason why the collegiate ideal in students' residence cannot be realised. The overflow from college messes, with adequate regulation of the numbers of colleges, may be a negligible quantity. But no organisation or regulation can sweep away the present sectarianism among students. There are two kinds of sectarianism to be considered: first religion; second caste. It is impossible by the nature of things in India to overlook either of these questions, although in time a solution more satisfactory than the artificial one at present adopted may be found.

At present the two main religious bodies in Bengal—Hindus and Muhammadans—have received strictly separate treatment in housing. Hostels have been provided, where possible, for both Hindus and Muhammadans; but other sections of the community have not been so clearly demarcated. Nevertheless, with the advance of education in the lower stages claims for separate treatment by other communities are bound to come forward.

Classes of different religions.

The Buddhists have already pressed their claims for a hostel, and have received special treatment by having a house hired specially for them. The Anglo-Indian community too will doubtless have to be considered. The building of special hostels or providing separate hired houses for these communities directly militates against the idea of collegiate life. The members of these smaller communities who wish to pursue a university course are not as a rule members of one college, and to provide one central house for all of them means that they are living a non-residential collegiate life. They are attached to no college, and do not receive the full value of a collegiate education. The same applies to Muhammadans largely, although in some cases it is possible for colleges to have special Muhammadan hostels. Hindus, of course, are sufficiently numerous at any college to receive separate hostel treatment on a collegiate basis.

In Calcutta at present the Calcutta messes authorities (the Students' Residence Committee of the University) attend to housing requests from the various communities where these communities think that adequate provision has not been made for them. It is very difficult to draw the line of demarcation in such cases. In some missionary hostels students of all religious types are included; and it does not seem advisable in view of what has already been done to listen too readily to sectional demands. It is a very moot question how far sectarianism should be allowed to count in a university. Where customs are so different as those between Muhammadans and orthodox Hindus there is no possibility of fusion in housing. But moderately orthodox Hindus, Brahmos, Indian Christians,

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Buddhists and Muhammadans have in the past fraternised together in hostels, and may do even more so in the future. The same general objection holds good in excessive religious sectarianism in housing as in the case of "district" messes, to which specific reference will be made in connexion with unattached messes.

It is not to be expected, however, that any general theory will solve this question. These sectional requests will continue to come to Government, and Government, it seems to me, can best solve the matter by referring it to the Students' Residence Committee through the Syndicate of the University; and houses may be taken in accordance with the principles laid down in the university regulations and under such financial conditions as Government and the University may agree upon.

Methods of dealing with sectarianism.

The only other courses open are to provide sectarian hostels or sectarian colleges (with hostels). Sectarian hostels must at present be non-collegiate, as, except in the case of Muhammadans and Hindus, there are not sufficient students at any one college to justify a separate house. Even at present in Calcutta all Muhammadans in arts colleges live in institutions unattached to their colleges. The second course of sectional colleges is already on the way to completion in the case of Muhammadans. Another course which ought to be considered is that certain colleges might be asked to take certain classes of students, *e.g.*, Buddhist students might all be asked to go to Chittagong College, where separate provision could be made for them. Unless some such course is adopted there can be no real collegiate life for students who wish to live a separate, sectarian life.

Caste.

Regarding caste, the usage varies greatly. In Calcutta no necessity exists for providing "caste" messes or hostels. In the Mufassal there are many examples of such messes, *e.g.*, at Dacca and Comilla, where houses have to be hired separately for separate classes (as the Shahas, Naths, Namasudras, Mahishyas, Dhobis). Principals of colleges informed me that such division is at present essential, but that in time it will become obsolete, as in Calcutta.

Position in Calcutta.

I have inquired closely into this question in Calcutta, and the conclusion is universally given from college principals, professors, and students that that there is no need for any "caste" messes or hostels. Democracy within the university is highly developed in Calcutta itself; and the feeling of equality and fraternity that prevails among the students may, it is hoped, help to solve the bigger sectional differences just mentioned. I wish to mention this lack of caste feeling particularly, as it is sometimes advanced as an argument for unattached messes. I conclusively state that as such it is false. In fact, as far as I can judge, Calcutta students despise the idea of marking class from class in this way.

Official definitions of messes.

The definition of mess, as given in the university regulations, is "a temporary boarding house formed by a combination of students who desire to share expenses." A mess, according to the regulations, has not necessarily any fixity of location for a period longer than one academical year, nor does the responsibility for its finances rest with the college or colleges to which its members belong. Such is the general definition, but there are two distinct kinds of messes. According to the university regulations (chapter XXIV, section 19): "In the case of messes for which the University or any other public body provides the funds in part or in whole, each mess shall be attached to one college, and the students living in that mess shall be all students of one and the same college, and the principal of that college shall have full control over that mess. Such messes shall be called attached messes": and (chapter XIV, section 21): "Messes which receive no subvention from public bodies shall be known as unattached messes."

Attached messes.

In Calcutta in the year 1913-14 there were 29 attached messes. I visited all the Calcutta attached messes, Mr. Banerjea accompanying me on several occasions. The number of students living in the Calcutta attached messes was 1,007.

Fixity of messes.

An attached mess, according to the university definition, is a temporary building, or a building which has not necessarily any fixity as regards its uses as a dwelling for students. This, however, does not mean that in practice messes are changed every year: in fact it is quite the opposite. The attached messes are tending to become permanent, and leases are renewed usually

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year after year, and certain of these houses have established a definite college connexion. In fact, the usual procedure in hiring messes is to rehire existing messes. Only where landlords are very difficult to deal with, or where the houses have become structurally impossible for mess purposes, does the mess inspector see fit to change houses. Of course, with the rapidly increasing numbers of students and the relatively slow increase of hostel buildings new messes have to be opened up every year; but whenever an old mess is available, it is at once leased. The advantages are obvious: not only is much trouble saved, but the mess becomes definitely a college residence, established firmly by time. Nor are landlords unwilling to rent their houses in this way. The rent is secure, and usually ample. The liberality of the demands of landlords, which has been referred to already, has a profit and loss side. Students are certainly not the best tenants from the point of view of care of the buildings. Additional risks mean additional rent, and so far the landlord need not be grudged his rent. But some landlords have an unfortunate habit of adding to the risks at each renewal of lease. The risks rise yearly and so does the rent. Some landlords, in other words, take an unfair advantage of their position to exact rents out of all proportion to the value of the house or the risks incurred by letting it to students. Landlords have a considerable bargaining advantage in dealing with the University; for the facts that the type of house available for messes is limited and that the university demands are urgent make them very strong bargainers. Some means must be adopted towards making longer leases possible. At present the annual renewal is in most cases sheer wastage of labour, and in many cases an additional financial burden on the University and Government.

Desirability of long leases.

One means to avoid unnecessary increases in rent clearly is to make long leases. At present the leases are entered into for one year only, and the annual renewals involve a great deal of trouble to the University when such trouble could easily be avoided. I have already pointed out that many messes are taken year after year for certain colleges, and I can see no reason why these houses should not be taken on long leases. Even if hostels are erected in the meantime, the arrangement of messes is sufficiently elastic to prevent undue financial loss. If a mess is not needed any longer for one college, it will be required for some other college. There will be for years to come a necessity for such messes, and the good houses which are at present in use should all be taken on long leases. The margin of residences necessary to meet fluctuating numbers of students may still be conducted on the present plan—of short leases.

Hostels and messes.

Undoubtedly a considerable amount of misunderstanding exists—at least in official literature—on the subject of the relation of attached messes to hostels. To all intents and purposes an attached mess is a hostel. The points of similarity are over-whelmingly more than the points of difference. The one root difference that at present exists is that a hostel is specially constructed as such, and that a mess is a hired house not specially constructed as such. The method of life of the students, the superintendence, the standard of living, the connexion with a college, are exactly the same in both. The college principal is responsible for both hostels and attached messes in practically the same way. I think it would be well in future if all attached messes were treated much in the same way as collegiate hostels. It will save a great deal of trouble in the giving of grants, and obviate much unnecessary argument.

Unattached messes.

The returns for 1913-14 of unattached messes in Calcutta give 33 with 590 resident students for Calcutta. I visited all these unattached messes personally, Mr. Banerjea accompanying me on several tours.

Discipline and supervision in unattached messes.

The essence of the unattached mess is, as quoted above from chapter XXIV of the university regulations, that they receive no subvention from any public body. The unattached mess is exactly equivalent to what is known in European quarters as a "chummery." It is merely a private arrangement amongst a body of students: they hire a certain house and live together in that house, paying all their own expenses. There is in the mess a nominal superintendent, who has to be approved by the principal of a college. Unattached messes are visited periodically by the university inspector of messes, who sees that the rules of the University are observed. The students in unattached messes

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have no connexion with any one college. Students of various colleges reside in them, and from the point of view of college life these unattached messes are extremely harmful. In a few cases it happens that the students are of one college (usually the Medical College, which is very badly provided with accommodation for students), but in the great majority of cases several colleges are represented. In some cases students of as many as *eight* colleges reside together. For 24 of the 33 unattached messes in Calcutta the average number of colleges represented works out at 6. Professors of colleges are naturally disinclined to interest themselves in messes in which they perhaps know only one or two of the students, while the other students may not appreciate the visit of professors of "foreign" colleges. As a matter of fact, the unattached messes are not visited to any extent by professors. The students are left absolutely to themselves. I was told directly that professors refuse to visit these messes simply because they are not made welcome and that due respect is not shown to them because they are not known by the students in the mess. The only restraining influence on the unattached mess is a periodical visit by the inspector of messes, and that restraining influence can be very slight, because the university inspector cannot possibly visit these messes very often. The Superintendents of these messes are nominated by the students themselves, and it is scarcely reasonable to expect that the superintendents can be very strict. One student very aptly expressed the position to me by saying: "We are all superintendents here, Sir." In several cases Mr. Banerjea and I found that while the books satisfied the inspector of the messes, the students who superintended the messes had a very hazy notion of the rules. In one or two cases in which the entries were all duly kept there was glaring and inexplicable ignorance of the rules of the messes.

Reasons for the existence of unattached messes.

The reasons for the existence of unattached messes are varied. The main reason is that hostel accommodation is not available (or accommodation in attached messes), but there are several other specific reasons. One very common reason for their existence is that students from one district wish to live together. Accordingly there are such messes as Pabna, Mymensingh, and Sylhet messes. Mr. Russell in his report in 1906 noted this as being a difficulty in the way of collegiate residences, but at the same time he pointed out that this reason should be eradicated. It is not a good thing for college life that students from one district should preserve their district identity to the exclusion of the universal side of university life. Localism or provincialism in messes should be definitely discouraged, for the idea contained in localism runs directly counter to the idea contained in university. At present this localism is cultivated at the expense of collegiate corporate life. Such corporate life is small enough already, and it would be a good thing if stumbling blocks in the way to its realisation were taken away, and one of these stumbling blocks very evidently is the local type of mess which is only too frequent in Calcutta.

Another reason why unattached messes are preferred is cheapness. Why that should be so is not obvious, because the unattached messes bear the total cost of the rent and upkeep of the house. In certain cases, of course, if the share of the rent falls below the amount exacted by the Students' Residence Committee the reason is clear, but in most cases the seat rent seems to be slightly bigger. The system in vogue in the unattached messes is not a uniform one. In some of the cases the students share the rent and messing between themselves; in other cases the students are under one man, who is called the "proprictor" of the mess and who tries to make the most he can out of it. In one case the students complained to me very bitterly that they had been defrauded by a proprietor, and that as they had come from the mufassal and had not much time to look round for a house, they simply could not help it. Still another reason given is that of self-containedness and smallness. A certain type of student prefers a small mess to the big hostel. Various other reasons are given. Some hold that better arrangements for food can be made under the conditions of the unattached mess. Others say that they have more liberty, as the superintendence is not strict. I noted however that the students as a whole did not wish to come to these unattached messes. They had been forced to in most cases by the lack of room in attached messes or hostels. Certainly, with all their private management and so-called liberty the students in unattached messes had the most complaints to give. Though in visiting these messes I did not want to hear complaints (for I could not give help), still the unattached students bombarded me with complaints both great

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and small. The greatest complaint was the lack of a hostel. In other words, the students in these messes feel that they have not a real college identity. Many other complaints were given, especially regarding the tyrannical whims of landlords. Mr. Banerjea and I were both impressed with the relative untidiness of unattached messes. In practically every unattached mess there was a general air of slackness and lack of discipline and order. While we were highly impressed with the tidiness and discipline in several of the attached messes, we certainly noted the relative inferiority of the unattached messes in this respect. Undoubtedly what struck us most in regard to the unattached messes was the grim contrast between the letter and the spirit of the law. In every unattached mess the books were regularly kept and the roll call was duly entered up. The mess inspector as a rule cannot find flaws in these books, but the system quite apparently lends itself to abuse. The superintendents, themselves students and equal members of the mess, can hardly be expected to risk unpopularity in the rigid enforcing of discipline on their fellows.

Undesirability of unattached messes.

On a survey of the whole number of the unattached messes Mr. Banerjea and I have come to the conclusion that it is most advisable to discontinue the unattached mess system altogether. The attached messes are in every way more desirable, just as the hostels are more desirable than the messes. But in the absence of funds for building hostels it is advisable that the students should live under as healthy conditions as possible, and the unattached mess system is by no means a healthy system. We accordingly strongly recommend that the Students' Residence Committee should receive a grant sufficiently large to enable them to house all the students who are not living with their parents or with guardians (guaranteed as really such), or in hostels (or in recognised non-collegiate hostels), or in attached messes.

Financial basis of hostels, attached messes, and unattached messes.

The financial relations of Government, university hostels, and messes are somewhat tangled: in fact, it is difficult to extract the principles which guide students' residence policy. The question of finance is one of supreme importance for the Government and colleges alike. Government is never tired of insisting on the fact that hostels and messes should be made self-supporting; while college authorities point out on the other hand that the expenses of the students must not be raised. Self-supporting is not easy to define. Presumably it means that hostels and messes as soon as possible are to receive no Government grants at all save those given for building and equipping hostels. Government has given large grants in the last few years for the building of hostels, and the Syndicate since the new mess scheme was introduced has received substantial annual grants for students' messes. Over and above the building grants various other grants have been given to hostels, all of which may be placed under the general name grant-in-aid.

From the descriptions of the messes given above it will be gathered that residential institutions for students in Calcutta are conducted on very varied systems. Hostels are rent-free; no college has to pay rent for its hostels. The building grants are free gifts from Government. In the attached messes, managed by the Students' Residence Committee, a fixed amount of rent is paid by each student, the rent varying from Rs. 5 to Rs. 3-8 according to the accommodation provided. The attached messes are differentiated from hostels by the fact that the houses are rented, and the total of the seat rents of the students is theoretically supposed to cover the rent of the house. This, however, is not actually the case. Various reasons lead to deficits, the main reasons being that no college can guarantee to have every seat occupied. This arises from the fact that the messes are attached, and if any surplus of seats exists, they must go unoccupied if students belonging to the particular college to which the mess is attached are not available. It is impossible to hire houses meeting exactly the needs of each college. Rough approximation only is possible. The number of the seats taken in each mess varies from year to year, but the seat rent remains fixed, and Government meets the deficit by the annual grant to the Syndicate for this purpose. The unattached messes are entirely self-supporting. They are practically of the same standard of housing as attached messes. They are supervised by the mess inspector, but they are non-collegiate. They attain, however, to self-sufficiency, neither Government nor any private agency giving any grant towards their maintenance. I have just

Fixed seat rent.

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given the reasons why attached messes cannot be self-sufficient in the same way as unattached messes; but it is impossible for me to lay down any hard and fast rule as to how far Government is to subsidise or not subsidise.

It depends largely on the point of view of Government how far attached messes are to be subsidised. The method of making them self-supporting is obvious—varying the seat rent proportionately to the number of students. The first part of this report has shown how strongly the Syndicate would oppose any suggestion of the raising of seat rents, and it seems useless to court opposition by pressing the simple supply-and-demand solution. Of course, the principle of varying rent in proportion to numbers might not result in a rise but in a diminution of seat rent—a result not so probable as rise in rent. Government has already for several years recognised liability for building hostels and meeting deficits in attached mess rents. The meeting of this deficit is tantamount to admitting the principle that students' residences should be rent-free, and beyond that the liability of Government is not admitted. We may accept this, then, as a principle of students' housing—that Government will provide rent-free buildings for students' residences. That is the theory; the practice, as we have just seen, is somewhat different. Government actually accepts a certain fixed amount as a fair rent from each student. If the sum of those fixed amounts does not meet the rents of the houses, Government makes up the deficit. When Government actually managed the messes the budget estimate provided for the actual payment of all the rents, whereas now only an approximate grant is made. We may take it for granted that Government will continue to recognise the principle that the students living in attached messes will continue to pay a fixed minimum. The present scale seems equitable—at least no specific complaints were made regarding it—and it will not be possible to increase it without strong opposition of the University. There are several reasons behind the position taken up by the University. In the first place there is the argument of differential treatment. All students cannot be accommodated in the normal residence,—the hostel; and it may fairly be said that those on whom hostel benefits cannot be conferred, should not have to pay more for quarters and comforts which are more exiguous than those of the hostel. At present the expenses of hostels, attached and unattached messes are not strikingly different, but anything which would mean marked differential treatment would be a cause of discord. At present no great dissatisfaction exists, simply because means are used to make expenses of the various types of residences as equal as possible. When I was making inquiries among the various messes I was particularly struck with the insistence by the students on cheapness as a *sine quâ non* of University education in both its aspects, academical and residential; and I have made calculations of the relative expenses of hostels (of which I selected several instances as types), attached messes, and unattached messes. The expenses of the messes I have calculated on an average of the various estimates given to me by the students and superintendents:—

Hostels.—Charge a composite fee, varying from Rs. 12 to Rs. 16 per month. In addition to this there are in various hostels additional charges, *e.g.*, medical charges, library or common room, badminton (or sports generally). Seat rents vary usually according to the accommodation provided. Electric current is charged for where it exists. I put down the average expenses of hostels at Rs. 14 or Rs. 15 (in some exceptional cases, especially the Hardinge Hostel, the expenses are as high as Rs. 22).

Attached messes.—Seat rent (fixed by university) Rs. 5 and Rs. 3-8 according to accommodation. Messing varies, according to students' estimates, from Rs. 10 to Rs. 13 per month. The latter (Rs. 13) seems a very liberal estimate. I should say the average expenses of the students in attached messes were about Rs. 14 or Rs. 15 a month.

Unattached messes.—Seat rent varies between Rs. 2-8 and Rs. 5-8. Very exceptional cases give Rs. 2 and Rs. 6. Average seat rent about Rs. 4-8. From the estimate given by the students, messing seemed more sumptuous in unattached messes than in either hostels or attached messes. The estimates varied—Rs. 8 to Rs. 17; these being extreme. The average was about Rs. 11 or Rs. 12. The total expenses of unattached messes per head I put down at an average of Rs. 16.

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It must be noted that in messes there are practically no additional charges, such as in hostels, for extras. The unattached mess estimate is interesting in view of the reason given by the students and superintendents for the existence of such places—cheapness. They are, if anything, dearer than the others. The inspector of messes agrees with me in saying that the excuse of cheapness (given for the existence of unattached messes) is shallow and false.

The second reason is that even if it costs Government a considerable sum for attached messes, the balance in favour of sound collegiate life and discipline more than outweighs the financial deficit. No money measure can be given for this, but there can be no shadow of doubt that anything which helps real university education is of great value. At present the whole scheme of things in the university is in a state of flux, and nothing more so than the residential system. To give backbone and stability to the system would be an almost incalculable advance in higher education. The Government of India non-recurring grants cannot possibly provide hostels adequate for the ever increasing needs of the colleges. Generous as they have been, they can provide for only a moderate percentage of the students in the many university colleges in Bengal. Private effort has been so negligible in the past that, in spite of pious opinions, it may be discounted. The only other method available is to make the attached mess system efficient, *i.e.*, to make attached messes approximate to hostels. I shall presently show how Government may do so by giving a grant on a certain basis to the University.

The third reason—which really is the basis of other reasons—is the poverty of the students. This plea has been an oft accepted one: in fact it permeates the whole university system in Bengal. Cheapness seems to be the lodestar of the Calcutta student's course. No good has a better unless that better is cheaper. I am afraid that I cannot sympathise with the students altogether in this point of view. Cheapness is all very well if good articles are procured at the price; but it is a most insidious evil if the articles have only the semblance of good and the essence of evil. Bad as deceptive cheapness may be in the bazars, still more harmful is it if introduced in the matters of mind and morals. Poverty has become a fetich with our students. Higher education is propped up on each side by Government,—on the purely academic and on the residential side. What private effort has done in the West is expected here from Government. Even the pettiest details in the mind of the average mess superintendent or student call for Government interference. I asked a number of mess superintendents to let me know what improvements they could suggest in messes; and in nearly every case the help of Government was invoked for all sorts of minor details, even for the mending of broken windows! The reason underlying all the requests is that of expense. Government must pay rents; Government must pay superintendents, and darwans, sweepers, and other servants; Government must pay for repairing drains and mending broken water pipes. Government is regarded as the father and mother; but one part of the family too often forgets that the father and mother have a big family to tend and cannot be robbed by a few. The Government of India have contributed in actual money to the building up of university education in a way unparalleled, and surely it is time that private effort should come forward to do the rest. It is not for me to enlarge here on the relative claims on Government of elementary and university education; but I may at least express my own opinion that the present university system is in grave danger of being pauperised at the expense of its efficiency. University students must be able to pay for a certain standard of education, both of intellect and life; and if they must be artificially raised again and again to that standard, the strain will inevitably pull down the standard.

It depends, as I have said above, on the point of view taken by Government how far messes are to be subsidised. Government has been rather inconsistent up to now in their iteration of the ideal of self-supportingness. While Government has on various pretexts paid out large sums for students' residences, at the same time a firmly ground expectation has been founded that Government will continue to pay. Reasonable expectation is a factor which can never be discounted in economic issues; and if students come to colleges knowing that Government has done much in the past, they naturally expect Government to continue doing much in the future. To cut off all subsidies without sufficient warning is equivalent to the imposition of an unjust tax. We are accordingly faced with an antinomy. On the one hand, pure reason dictates a self-supporting system; on the other

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hand reason based on experience urges on to advise the continuance of Government bounty. In plain language, we are faced with the position that most students have been given, are given, and will be given an education which they cannot really afford. It is in the interests of Government to make that education, even at the expense of Government, as *pucca* as possible, and it is that which impels us to regard as inevitable the continuance of Government grants for residential purposes. To start our university system over again is a clear necessity and an evident impossibility. What we must do is to make the best of what exists. This is the main reason for the continuance of Government aid to students' residences, which is merely one thing in the totality of the question. The reason which has prevailed hitherto—subsidising till the benefits of hostels are thoroughly established in people's minds—I regard at this time of day as mere cant. The benefits of the hostels and disciplined residences generally *are* well established in the minds of the people: but what is also well established is that Government must pay the piper for a tune which Government has had only a small voice in calling.

So far we have seen that the logical self-supporting ideal so often insisted on by Government is out of the realm of practical policy at present. If it is to be realized, it must be realised gradually. Government has been so liberal in the past that it must continue to be liberal in the future. All the same, the University should insist on a minimum standard of housing as well as of intellectual attainment; and that standard should be rigorously enforced either with or without Government grants. The intellectual training is by no means the only training of a university: the University trains for a certain type of life. Just as the student must be able to pay a minimum of fees for his college or university lectures, he should be able to pay for a certain standard of living. No exception should be allowed to this rule. At present the expedients of free seats, free studentships, or half-free studentships are adopted to help poor candidates. This often means that *poverty in itself* is taken as the reason for a university career being subsidised. Poverty with ability deserves help; but nowhere should that help be free studentships or free seats in hostels. Scholarships equivalent to the expenses of these should be given to the students; otherwise the students should have to work for their living in some way. The difference between a scholarship and a free studentship may not seem vital; but it really is so, as the burden of a free seat or a free studentship usually falls on Government in some way; whereas scholarships should in the main be private foundations. Here again in India the Government is regarded as an inexhaustible fund from which to draw. It may be noted, however, that at least in attached messes (unattached messes do not count in this connexion) free seats are very much the exception, and are granted only in a very few cases. It seems to me that the "free" system should be abolished altogether. A student at present may conceivably receive a degree without any appreciable expense whatsoever by receiving a free studentship and a free seat: such a student should, if he is able to earn one, be given a scholarship. If he cannot attain to scholarship level, I fail to see why he should be subsidised otherwise. If there are no scholarships, it cannot be helped. *De minimis non curat lex.*

(Mr. Banerjea, however, does not share my opinion. He writes—

> "I am not for abolishing free studentships and free seats altogether. Education should be widely diffused—never at the expense of efficiency however,—and students should not be refused education in every case because they cannot pay. I know of cases where those who read as free students (because they were poor) proved good students and took their degrees. Let help be rendered where it is deserved."

The end is the same in my view: the means somewhat different.)

After such reflections, I am loath to recommend the expenditure of Government money for purposes of subsidy. But I needs must, for reasons already given, the main one being that a building has been founded on props made and provided by Government, and if Government takes away the props the whole building will fall about our ears.

Recommended basis of future grants.

Taking the various considerations mentioned above into account, I recommend that Government guarantee a certain percentage of the rents of the houses used as attached messes, and that this guarantee be given for a period of five years. The figure I recommend is 30 per cent., which is based on an analysis of the percentage borne by Government during the

last nine years. The average for the whole number of years is 30·3; but the percentage, as will be seen from the figures, has been diminishing slightly. This diminution has been due to several reasons, the main one being the large number of students coming to Calcutta and the corresponding small number of houses used as attached messes. The students who cannot be accommodated in the attached messes hire houses for themselves as unattached messes, there being always a good demand for seats in attached messes. Another reason is the enterprising management of the inspector of messes, who has loyally worked on the understanding that the messes should be as nearly self-supporting in rent as possible.

Reasons for an elastic grant.

To give a certain percentage of the house rent for a certain period of time commends itself for several reasons. In the first place, the present fixed grant does not allow for elasticity in the hiring of messes. Houses must be hired only in such numbers as will not incur loss to the University. It is obvious that with the rapid increase of the numbers of students, some more elastic method of working must be found. At present Government grants a certain fixed amount, based on a general estimate made some years ago. Since the grant was first sanctioned great increases have taken place in the numbers of students, and no corresponding change has been made in the grant. An inelastic grant of this kind enables the Students' Residence Committee of the University to house satisfactorily only a small proportion of the students requiring accommodation.

Need for alteration in timing of examination.

A grant however is not the only essential to sound housing. The arrangement of houses for students would be a simple matter were the numbers at the various colleges in Calcutta limited. As it is, there is the greatest variation of numbers, and these numbers are not known as a rule till the session in July is well started. This of course, affects another question—the numbers to be admitted at colleges. It is not my business to discuss these wider questions in this review, but where these points affect or are affected by housing problems I cannot pass them by. As far as I can judge students can never be housed satisfactorily till some approximate idea of the numbers of students can be given a considerable time before the beginning of the academic year. The present adventitious methods of granting admissions to colleges makes it absolutely impossible for either principals of colleges, or the mess inspector, or the students themselves to secure adequate houses except at quite unfair rates. If the university mess inspector is to arrange for houses, or the students themselves are to take houses, they should have some time in which to conduct operations. At present the main examination results, on which the bulk of admissions depends are too late in appearing to enable students to secure admission to colleges an adequate time before the beginning of term. The two results on which most college admissions depend—the Matriculation and Intermediate—come out just in time to make the contest for admissions an unseemly scramble. Whereas every admission should be settled about two months before the opening of term, admissions at present are freely made after the beginning of term. No housing management is possible at all under such conditions. The results should be published in time to have the college admissions settled by the middle of May. Each student should know his college by then; and if he requires housing accommodation, should know where he is to live. In a college where numbers are fixed there is not much difficulty even now in arranging seats in hostels or messes; but with the enormous increases in the matriculation numbers very few colleges have their numbers fixed. The principals are obliged, either at the request of the University or by the promptings of common humanity to admit more than they have done in previous years. The result is that quarters simply cannot be arranged for all students, principals or the mess inspector not knowing for whom to provide and for whom not to provide. The mess inspector usually rehires messes hired in the previous year on chance, but of the excess numbers he has no cognisance till too late. The end of it all is a confused rush on the part of students to be housed somewhere. Hostels are rapidly filled up; the attached messes of previous years fill to overflowing; and, at the last moment, the mess inspector has to try to hire fresh houses, or more likely students —many of them new to Calcutta—rush about with one eye on the university regulations and the other on every signboard marked "To let" in order to have somewhere to lay their heads. That somewhere is one of three places: either unattached messes, unlicensed messes, or with "guardians." The person who comes well out of the whole

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proceedings is the landlord, who can set any terms he pleases. I have already noted that several students in unattached messes complained that they had been deceived by landlords. Little wonder, for students fresh from the mufassal to a great city are very unlikely to know the arts and crafts of city house-owning. Even far more experienced people would not relish hiring a "chummery" in Calcutta under such conditions.

Guardians and unlicensed messes.

The university regulations (chapter XXIV) say that students must live either in proper houses or with guardians. The term guardian has been very loosely interpreted by students. Every principal in Calcutta with whom I discussed this question,—in fact every one connected with supervision of students,—told me that the term "guardian" is practically worthless. Any one can be a guardian—even students are guardians of students. The system of guardians lays itself open very easily to abuse, and that abuse is inevitable under the present conditions. Students must live somewhere, and they must somehow or other satisfy the university rules. Means should be adopted to abolish the guardian system, except in very well authenticated cases of guardianship. The only reasonable means is to establish a smoothly working system of attached messes. Unattached messes are unhealthy institutions, and unlicensed messes, to which many students resort under the guardian system, are self-condemnatory. But (except, indeed, at an enormous waste of public money), unless the timing of the big examinations is altered and the consequent chaotic state of admissions abolished, very little progress will be made. Whether the standard of the present examinations is high enough or not is another matter; but certainly the matriculation and intermediate examinations, and even the B. A. examination (on which the M. A. admissions depend) are too late.* This year, for example, the publication of results almost synchronised with the reopening of colleges.

Regulation of admissions.

Not only must the admissions be made sooner, but sound housing policy demands the further reform of rigid enforcement of the principle that once a student has taken admission to a college and seat in a hostel or mess, he must become a member of that college and mess on pain of a very heavy penalty. At present students often seek admission to several colleges, and may receive admission to several, selecting finally the best college. Without denying this privilege to the students, I hold that all this college higgling should be completed at least six weeks or one month before the college terms begin. A student should know finally his college about the middle of May, and, as far as possible, his residence: for those for whom seats are not available will then be placed in the hands of the university inspector of messes.

Abolition of certain types of residence.

To give this elastic basis of a percentage of house rent will mean that attached messes can be formed in sufficient number to accommodate all students not in hostels or in their own houses. This implies the abolition of unattached messes, unlicensed messes, and the much abused guardian system. Mr. Banerjea and I strongly recommend the abolition of these, and our recommendation is backed by the opinion of every responsible authority in Calcutta. The grounds of this recommendation have already been given. It may not be possible to abolish the unattached messes *in toto*. There will always be an irreducible minimum of casual students for whom provision will have to be made. The Students' Residence Committee, in consultation with principals of colleges, should try to make this minimum a negligible quantity. An elastic grant to the Students' Residence Committee will make it possible (other conditions being favourable) to vary the number of houses proportionately to the number of students.

Management of messes.

Further, it will be in the interest of the Students' Residence Committee to make the messes as efficient as possible under this system. The percentage I have given is neither too much nor too small. Efficient management should make it adequate; and if there is a small margin on the credit side, it may go to the general expenses of the scheme.

Government guarantee and private enterprise.

I have just given considerations strong enough in themselves to justify the recommendation; but to reinforce them I have an even stronger reason. Once if it becomes known that a Government guarantee exists for rents, a far better type of house will be

* Mr. Banerjea considers that the time of examinations should not be changed, but that the results should come out sooner. If that is possible without altering the dates of the examinations, well and good.

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procurable. The guarantee, too, is for a term of years, *viz.*, five. By this means long leases will be possible, with advantage to both lessor and lessee. The landlords will have security for their rent: the occupiers will be prevented from the yearly exactions in added rent to landlords. Not only so, but I have very good grounds for believing that capitalists will come forward to build houses for mess purposes. This is tantamount to building hostels. That this is no mere empty speculation is shown by the fact that there is at least one example of a house built by a capitalist, on commercial lines, as a student's mess. That one man has ventured the experiment shows the possibilities of the case, and I am assured by the inspector of messes that all that is wanted for other moneyed men (or even limited companies) to do the same is definite security of agreement.

Given sound guarantees, there are men in Calcutta who, I am convinced, will come forward to build special mess houses for students on conditions laid down by competent authorities, such as the Students' Residence Committee, through the Syndicate or Government. Hostels have at present to conform to certain conditions as regards building, sanitation, and such like. It is easy to make conditions where one gives the money; but it is another thing to lay down conditions to a private party. Such however is possible, and the importance of this possibility can hardly be exaggerated. The Government of India have given large grants for hostels, and will presumably continue to give large grants for hostels; but from the nature of the case it will take generations for Government alone to provide Calcutta colleges with fully adequate hostels. To encourage private owners to build for a fair return what the Government of India cannot afford to build points to a more speedy solution of the residence question than has usually been though possible; and I think that the means I have suggested will act to this end. There is no departure in principle financially from the present system, which is supported from the two sources of Imperial grants (recurring and non-recurring) and Local Government grants. The actual cause of this report is an Imperial grant—and, what is more, an Imperial *recurring* grant—and I can think of no more fitting way in which the aim of the Government of India and the actual use of its funds can be harmonised than by making the sum set apart for the messes the pivot of an efficient collegiate residential system for Calcutta college students.

Difficulties of the scheme—

There are one or two difficulties to be overcome before the recommendations given here can be adopted. It may be argued, for example, that there will be difficulty in making estimates for this scheme. That, however, is a visionary objection. The difficulty of making estimates according to the scheme is no more marked than in other branches of administration—educational or otherwise. Where there will be difficulty is in a speedy realisation of the scheme. Suitable houses are not easily procurable for messes even now; but where houses and numbers of students have to be carefully correlated, the difficulty will be more marked. Even then, the mess inspector tells me, there should not be insuperable difficulty. There is difficulty in starting any scheme; but in this case it can hardly be called starting a scheme. It is merely varying an existing scheme, and in one or two years everything should be running smoothly.

(1) Estimates.

(2) Attitude of Government to messes.

Where there is distinct difficulty is in converting Government to the view which is the centre of the recommendation made, *viz.*, that attached messes should be treated as hostels. Hitherto the Government of India have drawn a sharp line of demarcation between houses specially built for residential purposes—hostels—and houses hired for residential purposes—messes. Perhaps the most typical representation of the view is in the letter (No. 27, dated the 8th January 1914) of the Government of India to the Government of Bengal. That letter says:—

> "While the position is tenable that house rent should be regarded as the equivalent of initial outlay, the Government of India are unwilling to countenance any practice which would tend to perpetuate the utilisation of hired houses as opposed to buildings specially erected for hostel purposes; and a system of messes, where the supervision exercised must necessarily be of a less complete nature, does not commend itself to them save as a provisional arrangement

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The Government of India are accordingly unable to approve the payment of rent by Government for hired houses which are used as messes, although there is no objection to the continuation of the aid which, it is understood, is at present given by the Local Government through the University to a scheme for provisional messes in Calcutta and Dacca. They are also unable to approve the payment of rent by Government where such houses are used as hostels save where no hostel of a permanent nature (not excepting such a hostel already full) is available. And in the latter case they consider that not more than one-half of the rent should be defrayed by the Local Government. Cases, however, will doubtless arise where Government may reasonably pay the full rent, *e.g.*, where houses are hired as hostels for girls, children of the backward classes, etc. The Government of India desire that the Local Government should use their discretion in such cases. In cases where houses are used as hostels and rent for them is defrayed by the Local Government beyond the limits laid down in the present letter, and where a sudden change would produce hardship, there is no objection to the continuance of the payment of rent from Provincial revenues for a reasonable time. But it is hoped that such cases will be few; and it is thought that this concession should not be extended beyond a fixed period of time."

The above letter shows distinctly the general attitude that has been taken towards messes. The main bone of contention is the "hired" element. I hold that by making that the criterion of supporting or not supporting residences for students, Government is laying emphasis on accidentals and not essentials. The fact that a house is hired and not specially built for a specific purpose does not alter the central meaning of the house—that it is for collegiate residential purposes. Following a great master, we should, I think, keep the end or purpose of the house in view—not certain accidental properties. What is necessary in the university scheme of things in Calcutta, in the sphere of housing, is the collegiate idea. The various nondescript makeshifts for housing—unattached messes, guardians, and unlicensed messes—are universally condemned as unsound; and there is no reason whatsoever why they should continue in life. But if the Government of India are to insist on actual hostels being built in Calcutta for all students, then the prospect of a sound scheme of housing is very black. The cost of building hostels is notoriously high in Calcutta, and the Government of India cannot possibly provide hostels for all colleges within a reasonably short period of time. The present piecemeal method of giving hostels is laudable enough; but at the present rate of progress the first hostels will be falling down before the last ones are being built. Such a vicious circle may be avoided by bringing help other than that of Government to our aid. I have just shown how it is possible, and I have set down provisionally an experimental period of five years in order to ascertain if private effort will come forward, under a Government guarantee, to build houses for the special purposes indicated by the ruling authorities. If the surmises I have made are correct, the Government of India may increase its grant, if increase is necessary; if incorrect (which I very much doubt, if the scheme is properly managed), we may again cast about to set our house in order. But I am assured by responsible authorities that the scheme has every chance of success, and as such I commend it to the notice of Government and the University, each of whom will have to co-operate with the other for its success.

Similarity of messes and hostels.

I was definitely told at the outset of this inquiry that any recommendations that should be made for messes should not be detrimental to the hostels scheme. I trust that it is no sacrilege to the name of hostel that I have ventured to call an attached mess by that name. Even unattached messes, such as the Buddhist Hostel and the Uriya Law Students' Hostel, have been dignified by Government and the University by the name of hostel, and they are less like hostels than attached messes are. Mr. Sharp in the paragraph quoted above says that superintendence in messes cannot be so good as in hostels. This is very true of unattached messes and unlicensed messes; but there is no reason whatsoever why it should be true of attached messes, which are, I repeat, in every sense save one—that they are hired houses—hostels. If houses are built as attached messes, as I have no doubt they will be under the guarantee proposed, they

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will be presumably more fitted for their purposes than the present houses which are hired on chance. Family quarters, for example, might be provided for superintendents (the provision of family quarters in hostels was, I found, one of the first things set down by European and Indian alike as essential to efficient superintendence), and adequate godowns for servants, lodges for darwans, and such like. Surely the mere payment of rent for such a house would not damn it for ever as a hostel. It might even be purchased, at once or on the instalment system, were rent-paying an insurmountable obstacle to its being a hostel.

The recommendations which have been made in this report posit the continuance in existence of the Students' Residence Committee as the body directing messes and non-collegiate hostels. It may very plausibly be argued that if attached messes are to be treated as collegiate hostels, then the colleges should take over the control of attached messes. This, indeed, should be the ultimate result; but we must in the meantime favour useful working machinery. The Students' Residence Committee at present has the controlling power in all messes, and the working of the system is fairly smooth. I found practically no complaints from college principals about the relations of colleges to the Syndicate in the matter of housing, and I consider it inadvisable to scrap good machinery to replace it by what may be unsound machinery. The Students' Residence Committee has two big advantages: first it has a recognised legal status, which has become actual in the various branches of its work; secondly it secures uniformity. If any improvement is to be made in the messes scheme, it should be undertaken by the body controlling the present scheme. If long leases are made, the messes will become *pro tanto* hostels, and should be treated as such, in organisation and discipline; but the Students' Residence Committee should still be the grant-receiving and grant-distributing body, with a strong staff for supervision. If Government give grants to colleges without any responsible officials at the University to see to the conditions of the grants being fulfilled, there is no guarantee that an adequate standard of housing will be kept up. The same argument applies so far to hostels; but where the Public Works Department and the Sanitary Department have had a deciding voice in the building of the hostels, supervision is not so essential as when special houses have to be hired.

In the case of private contractors offering to build houses as messes on a given guarantee, I consider that the University is a stronger body to deal with such cases than individual colleges. Not only so, but the university prestige should count for more in the eyes of speculators. If Government gives the control into the hands of colleges, there will be a very heavy addition to the work of the Education Department as the negotiations of individual colleges will have to be centred in Government, as is at present the case with hostels. The simple method of meeting the position is to continue a body which has both legal status and prestige, *viz.*, the Students' Residence Committee. That Committee should receive the grants, arrange for the houses, and distribute the grants, as before. I would strongly advise, however, that in the case of contractors offering to build hostels, the Students' Residence Committee (through the Syndicate) should consult responsible building authorities. Type hostels might be used, and very rigid censorship of variations established.

If attached messes become definitely college hostels, then colleges may gradually take over control themselves. But in the meantime the system must be worked up by the central authority, the Students' Residence Committee, which may at its discretion allow colleges to take over control. These arrangements can be amicably arranged by the University, and we need not trouble about them here. Co-operation between the colleges and mess inspector (who is the embodiment of the Students' Residence Committee) is very necessary even now, and there is no reason to think that the harmonious relations of the past will be broken in the future.

The university regulations.

The various remarks I have made affect intimately the very basis of students' residence, *viz.*, the university regulations themselves. The abolition of unattached messes and other undesirable forms of residence must be followed by a change in the university regulations, which at present admit them. The change of law need not be made immediately. The results of experience may be awaited.

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Grants to messes.

Having established the first proposition, *viz.*, that attached messes should be the only residential institutions outside hostels, I now go on to consider the further question of additional grants to attached messes. The position I wish to establish in this connexion is this: that approved attached messes, as far as grants are concerned, should be treated as hostels. The additional sum provisionally set apart for the messes scheme by Government is Rs. 15.000. Of that I advise that 30 per cent. of the rents of attached messes should form one part; another part I advise should be called technically grant-in-aid, equivalent to grants to aided hostels. It depends not on any recommendations I may make, but on the principle Government adopts in granting aid to hostels, that this sum will be decided; but what I can indicate is how a grant-in-aid may be utilised.

Suggested improvements in messes.

I asked all principals of colleges and superintendents of messes in what way they considered attached messes might be improved. Suggestions were poured in—from the mending of water pipes and window panes to the building of proper houses. From the mass of suggestions received the ones which deserve consideration are—

(*a*) Payment of superintendents.
(*b*) Provision of common rooms.
(*c*) Payment of certain servants.
(*d*) Provision of adequate quarters for superintendents.

Superintendence.

(1) *Payment of superintendents.*—The question of superintendence has been so much debated in Government letters and files that there seems very little left to say on the subject. I may, however, indicate in brief the present position in regard to this subject as far as the Calcutta mess scheme is concerned.

Present position.

In the attached messes there is, as I have indicated, a responsible superintendent who usually receives free quarters and a small salary. Superintendents of the messes attached to the Government colleges are paid at rates laid down by Government, but there is no uniform procedure for other colleges. In every case free quarters are provided, but not in every case is a salary paid. It may be argued that the superintendents in receiving free quarters already enjoy a considerable concession; but after having seen the type of quarters provided and the type of work to be done, I am persuaded that the granting of free quarters is not in itself a sufficient incentive to make teachers of colleges become superintendents. Superintendents receive usually one room. That room may be a one, two, or three-seated room, but it is self-contained, and as such the superintendent has a certain amount of privacy in his life. But in no case are the quarters provided for Superintendents such as would induce a professor or lecturer to settle down there. The rooms of the superintendents are exactly the same as those given to students. In no cases are family quarters provided, and it is undoubtedly a considerable sacrifice on the part of some men to act as resident superintendents. The noise, bustle and continual calls of duty must make it very difficult for a superintendent to do any sustained work of his own. In a big mess especially the superintendent has his spare time fully taken up with various duties, many of which are irksome and disagreeable. I do not wonder that it has been reported again and again that superintendents are not easily found. Certainly the grant of free quarters of the type provided at present is not a sufficient attraction, and I question if pay added to free quarters will improve the situation at all. Professors and lecturers, it is usually said, are the type of men wanted as superintendents; but professors and lecturers, if they are do to their teaching work efficiently, cannot afford to spend time arguing about mess bills and broken water pipes. Even a considerable salary might fail to secure college teachers for such appointments

Free quarters.

Types of superintendent.

On the other hand, there are men who are so constituted that they will do such work whether they get pay or not. That is the real type of superintendent,—the amateur superintendent,—the teacher, be he professor or lecturer or demonstrator, who feels it a part of his life and work to interest himself in all the affairs, great or small, of the lives of his students. Personally I do not think either free quarters or payment in themselves will ever secure efficient superintendents. The professional superintendent tends to become little more than a regis

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tering clerk, while the real superintendent will be a superintendent, it may be said, in spite of free quarters or payment.

The work of superintendence of a hostel or mess has two distinct branches: one the clerical; the other what may be called the directive. The clerical branch is the routine work of management, for example, calling the registers, seeing to the state of repair of the rooms, and insisting on ostensible obedience to written rules. The directive side is that of sympathy with the students, interest in their life and work, practical guidance and advice. For the two duties different types of officers are necessary. For the one a clerk is necessary: for the other a sympathetic teacher. For the one quarters and payment on a suitable scale are necessary: for the other it would be well to give quarters with or near the students, but pay is not necessary. The best solution has been arrived at in missionary institutions, where the superintendents are usually missionaries, who receive no additional pay for their work but who are helped in their routine duties by assistants who receive pay for clerical work done.

Work and wages.

It is unreasonable to expect professors actually to live with the students in messes under the present conditions. Family quarters have already been provided in some hostels, and will, it is to be hoped, be provided in the hostels of the future; but in messes, from the necessity of the case, family quarters have up to now been out of the question. Only where special provision has been made can the requisite privacy be secured, and this provision cannot be looked for in houses adventitiously hired for one year only; and only where family quarters are provided will it be possible to have real superintendents living with the students. All hostels of the future should in my opinion provide family quarters for superintendents, and where possible in existing hostels such quarters should be added. I am afraid that messes will not as a rule be able to attain to this (unless, indeed, they are specially built as messes, or special arrangements are made in existing messes), and that, *whatever the type of superintendent*, payment will be necessary, for the simple reason that the superintendent has to make considerable sacrifices to live the harassing life of a superintendent.

I do not think it is unreasonable that pay should be given to the present mess superintendents. The opinion of the superintendents themselves is not uncertain. They clamour with one voice for pay in addition to their quarters, and I do not wonder at their requests. They have abundance of work in the messes, and the work is often uncongenial and irritating. Not only so, but the present type of superintendent has the regular duties of his profession to attend to during the day. The work of superintendence is additional work and should be paid for, as it cannot by any argument be held to be within the ordinary professional duties of the average superintendent. The actual superintendent of the Calcutta messes at the present time is a mean between the two types just mentioned, and combines both duties with a wonderful degree of efficiency. From the nature of the case, however, very high efficiency in either branch cannot be expected, because of the work being an appendix to other duties. Where the work divided between the clerical and directive—the latter unpaid—there would result the double advantage of efficiency in each branch of work and the avoidance of a class of professional mess superintendents.

The actual type of superintendent.

The superintendents of the Calcutta messes are of the most varied type. Practically all the superintendents of unattached messes are students, a point which I have noted already as being a strong argument against the unattached mess system. In attached messes the superintendence is almost equally divided between senior students, junior lecturers and demonstrators, teachers in collegiate schools, and members of the office staff of the colleges. Their pay varies largely. Some receive nothing at all (and this is the case with some of the largest messes in Calcutta, where the work is hardest). Others receive any annual grant that the college may make. Others receive a monthly salary varying from about Rs. 8 to Rs. 25. There is no system at all in the regulation of pay—such as Government has drawn up for superintendents of Government institutions, or such as has been proposed for the Dacca scheme. All these superintendents have a considerable amount of responsible work to do in addition to the ordinary duties of their professions, and they naturally complain that no pay is given. Their work is mainly clerical; of the purely

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directive type of superintendent there are very few in the Calcutta messes: in fact in only one case (Bangabasi College) could I find an example. I repeat that men of the purely directive type do not require pay. Most of them in all probability would refuse it. But what they should have if possible is suitable quarters in or near the mess, a subject of which I shall speak later in the appropriate place. In Dacca some of the messes have such quarters—family quarters—and the proctor told me that wherever possible such quarters would be provided. The Students' Residence Committee in Calcutta, once it can have long leases and make its conditions as regards the building, should make this one of the central tenets in its policy. Landlords may be either persuaded or forced to make such alterations as will bring about the desired end, and one of the chief difficulties in the way of finding suitable superintendents will be removed.

General organisation.

The general scheme should be something like this. In every mess and *a fortiori* every hostel, suitable family quarters should be provided for the chief superintendents, these superintendents to be, as far as possible, fairly senior members of the college professorial staff. Students will not as a rule respect teachers in collegiate schools, cashiers, or junior lecturers, however excellent these men may be either in moral or intellectual worth, or however old they may be (for some colleges seem to depend on age alone as breeding respect). The superintendent should be a man highly respected in college for his authority and power as a teacher—a man who will sympathize with the difficulties of students and help the students in the hour of need. Under him should be an adequate staff, either of clerks or monitors. All authority in the mess should be vested in the resident superintendent, who should be the pivot of the internal organisation. (That organisation may vary, but the Dacca scheme of monitors seems a worthy one to copy.) This of course will apply to larger messes,—messes, say, with over 50 resident students. In smaller messes the clerical superintendent will have to be the resident superintendent, and on him will devolve the burdon of responsibility, though in such cases colleges should tell off one of the professorial staff as superintendent-in-chief, preferably one who stays near the mess or messes. The university inspector of messes will carry on his duties as heretofore: seeing that everything is in order, and reporting cases of misconduct. Needless to say his duties will be far less onerous if more responsible men are appointed as superintendents than is at present the case. I do not say a word against the present superintendents as a class. They do the work they have to do well; but I hold that there is a higher type of work to be done among Calcutta students at the present time, and that that work can be done only by a more highly developed specialisation of function.

Payment of superintendents.

When I come to consider the question of payment of superintendents, I can only give a personal opinion, to be filed with the many opinions already given. All sorts and shades of opinion have been expressed on this point, and the attitude of Government has been so varied that it is almost impossible to recommend anything with any degree of certainty. I have already pointed out, in the history of the scheme, how in drawing up the basis of it Mr. Küchler definitely recommended the discontinuance of payment given for some time to mess superintendents. Since then any payment to superintendents in the messes under the Calcutta mess scheme has been rigorously refused by Government, despite recommendations by the University and the Education Department. While refusing help to the Calcutta messes Government has sanctioned a scale for superintendents of Government institutions—a scale which has just recently been made uniform for Eastern and Western Bengal—and also, quite recently, a new scale of payment has been sanctioned for the Dacca scheme. These various scales I give in an appendix, and all I can do here is to draw up an estimate on these known scales for the Calcutta scheme, basing my figures on last year's messes and the new uniform scale of pay sanctioned by Government for Government officers. I append a table which shows the total cost per month for the various messes at varied proportions of the Government scale.

Basis of payment.

One of the most difficult things to decide in connexion with the payment of superintendents is the proportion of payments to be borne by the various agencies concerned. What share are Government, the colleges, and the students to bear respectively?

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As far as I can gather from the various interviews and discussions, it will be well-nigh impossible to procure any type of Superintendent from the Bengal college professors unless pay is given. There is a fixed idea prevailing among most college professors in Calcutta that any responsibility entailing the lightest amount of extra work must mean extra pay. On the other hand, the Education Department has already found that to give aided colleges a grant for payment of superintendents would be unfair, inasmuch as certain colleges (chiefly missionary) do not pay their superintendents, though they pay the clerks under the superintendents. Consideration of this has led the Department to recommend not a sum as payment of superintendents, but a general grant-in-aid to hostels, based on the individual needs of colleges.

The same principles should apply in the case of messes. Where superintendents are amateurs, as they should be—as it is really a part of their general work, (though no man should be forced to such work)—it is needless waste to pay them. On the other hand, most colleges, in spite of my ideal scheme, will have to pay men to be superintendents if they are to have superintendents at all. For such colleges a scale could be recommended; but as the payment is not wanted by the other type, there would be unfair differential treatment in their case. The only fair way to treat the position is to estimate what would be the proportion on the scale sanctioned for each, and that that should be given not as payment for superintendents but as a grant-in-aid. The grant-in-aid may, in other words, be calculated on a certain scale of payment to superintendents, but it need not be actually paid to superintendents. But this qualification should be added: that if Government gives a grant-in-aid of this kind, say half the pay of superintendents (according to Government scale), colleges or the students *must* pay the other half. The whole grant will then be distributed by the Students' Residence Committee, either for payment of superintendents or for general improvement in the mess. As a matter of fact, every superintendent in the present messes will ask for payment.

The superintendent mainly a students' officer.

It is scarcely possible to give an opinion satisfactory to every one on the proportions leviable in the various agencies. Where there is a chief superintendent of the directive type, whose work is merely general oversight, there must also be a clerical staff. Insomuch as that clerical staff manages the mess, it is part of the establishment, and should be reckoned among the ordinary expenses of the establishment, and, therefore, borne by the students. It is in the interest of the students that they should have good managers, and they should pay for them. These managers have to carry out the university regulations (seeing to the rolls, gate books, etc.) and as such they are part and parcel of the students' life. A student must conform to university regulations, and each student should know that before he comes to the University. As Rousseau would have put it, he is really "forced to be free," and the forcing is all part of his university course, and he should have to pay for it as he has to pay for his tuition and seat rent.

College and Government share.

Unquestionably it is in the interests of Government and the colleges too that superintendents should be efficient. In fact, on the efficiency of superintendents, on their organising ability and their tact, depends most largely of all things the success of hostels and messes. It may be argued from this that Government and the college should bear a proportion of the expense of superintendents. In the peculiar conditions governing the Indian students' life, it may fairly be held that Government has a paramount interest in securing good superintendents, and that Government should recognise that by giving a grant for their payment. Here, as in most things regarding grants to hostels and messes, it depends on the point of view. Personally, I regard the necessity of superintendents as being mainly a matter for the students. It is contravening no reasonable expectation to make the students support what they know by their very articles of agreement, *viz.*, the university regulations, to be necessary for their college life.

The poverty of the students.

But—the inevitable *but*—it is argued the students are too poor to pay. This argument is in this case, as in most other cases, again final. Neither the university nor the colleges, as can be seen from previous remarks, will countenance any reform which will demand an extra rupee from the students. The registrar of the university, in his letter No. 4778, dated

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28th April 1910, expresses the position of the university in these words, and four or five years have not altered it:—

"The Syndicate are not prepared to accept any scheme which would imply that the fees levied from the inmates of messes are to be raised. It is the unanimous opinion of the principals consulted that the seat rent demanded from students hitherto represents the maximum amount which the great majority of them are in a position to devote to house accommodation. Most of these students are very poor—so poor indeed that an additional rupee or two taken from them for seat rent would mean a proportionate diminution of the certainly not extravagant amount which they at present can afford to spend on the other primary necessaries of life—food, lighting, clothes. The general expenses of life have risen all round in Calcutta in recent years; and, moreover, most colleges have, during the same period, raised their tuition fees. It will be no exaggeration to say that to levy from students of the class referred to, let us say twelve rupees more a year for seat rent, would constitute a distinct hardship, would in all probability compel a certain number of them to give up their studies altogether, and would almost certainly induce a very considerable number to leave the attached messes and look out for accommodation elsewhere.

"If then the plan of balancing expenditure and income of the mess scheme by raising the contribution made by students appears not to be feasible, are there any other sources from which provision might be made for the excess expenditure? Here I am authorised by the Syndicate to say that the University is altogether unable to provide the necessary funds. The general expenses of university administration (in connection with management of examinations, inspection of colleges and schools, arrangements for university readerships and lecturerships, etc.), have greatly increased in recent years under the new regulations: to such an extent, indeed, that for some time to come the University will have a hard struggle to meet the expenditure which it is absolutely bound to meet. It therefore must decline altogether to burden itself with new financial responsibilities. And, on the other hand, the principals of colleges, who after all are the persons most directly and intimately interested in arrangements meant to promote the welfare of their students, declare unanimously and emphatically that they have no funds whatever on which to draw for the purpose of maintaining additional boarding houses and messes, all their available means being, under the new regulations, absorbed by additions to the teaching staff, enlargement of college buildings, establishment and equipment of laboratories, and improvement of libraries. The principals most fully acknowledge the good which attached messes have been doing, and would view their disappearance with the greatest regret; but they are not in a position to maintain them from college funds."

The only way to make the students pay the salaries of the mess managers is to increase the mess charges. To propose such is merely to march an army into the sea. Whatever principles we may formulate on purely logical grounds, we must modify in the light of experience. As in the case of rent, so in this case, the simple supply-and-demand method fails; and we must needs fall back on Government. But Government cannot be expected to bear the whole cost. The students and colleges must bear part. There is no reason outside the poverty of the students why they should not bear part of the expenses. Mr. Tipping indeed pointed out when he was dealing with the question, that to make the pay of the superintendent a charge on the students placed the superintendent in an awkward position. Such a system, he said, makes the Superintendent a servant to those over whom he should be master. This, however, in itself is not a sufficient reason for the students not paying the charge, as the college presumably would pay the superintendent though the actual funds came from the students. The college as intermediary would take away the sting of the direct dependence of the superintendent on the students.

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I do not consider that Government should bear more than one-fourth, or at most one-half of the expenses of superintendents, that fourth or half being reckoned on Government's own scale. The table in the appendix shows the monthly totals on the two scales—Provincial Educational Service and Subordinate Educational Service.

The share of Government.

Provision of common rooms.—Very few messes at present have any facilities for the cultivation of the social part of student life. In most messes practically every available corner is taken up by students' seats, or (more literally) beds. In a few messes a room is set apart as a common room, or perhaps a part of a landing or verandah is used for the purpose. Most students and superintendents impressed on me the necessity of the bigger messes at least having a common room, in which there might be a communal library, communal newspapers, and communal life generally. One cannot go round the various students' residences in Calcutta without being impressed by the seeming barrenness of the average student's life. To any one used to western habits of thought and living the Calcutta student's life presents a startling contrast. While the western student insists on his study and bedroom, the Calcutta student is quite happy if he gets one "seat" in a room along with three or four others. That "seat" is his bed—and that bed is as a rule his seat, desk, table, and couch. Very few students have single-seated rooms, and in only one case did I see a student having any semblance of a study room apart from his bedroom. Nevertheless, the students seem perfectly contented on the whole, although their content may be the result of resignation to circumstances. The University prescribes a certain amount of cubic space for each student, and that standard seems satisfactory to every one, students and superintendents alike. It is difficult to conceive how students can do really hard study in such conditions, but the fact remains that they do; and all being well in this respect, no more need be said.

Provision for common life.

Not only do the quarters seem extraordinarily exiguous to western eyes, but one is struck with the minimum of books by which a student can obtain a degree. By the time the average western student leaves college he has usually the basis of a respectable private library. In very few cases in the Calcutta messes did I see students having any more than the bare minimum of text books prescribed by the University. Most college libraries, of course, supplement the student's own possessions; but none the less, it is surprising that the students should not have books outside the paper list of the University. The reason for the non-possession of such books is always set down as poverty. The buying of books seems to have no place in the student's budget: more's the pity, for a university education should mean more than a mastery of a few text books. It should be an education of the complete man—*totus teres atque rotundus*—and not of a mere part of man.

Private libraries.

Not only did I note a lack of private books, but there was a lack of even ordinary periodicals. Practically all the students read one newspaper and one only, the *Bengalee*. Here again college libraries and common rooms usually fill up the gap; but in the multitude of readers at any one college, very few can read well. Internal organisation in the messes should provide against this lack: a very small subscription per student, for example, could provide several newspapers and periodicals (and superintendents should see that these are good ones). College authorities (college funds permitting) should provide a small library of general literature. No reasonable person can contend that Government should give a grant for such purposes. The only thing that Government might do is to provide a room as a common room, but here I cannot recommend that Government should go further than I have recommended before. If Government meets 30 per cent. of the rents, that percentage must be taken to be a maximum for all rent purposes. To make actual provision for common rooms would mean the paying of rent of four to six-seated rooms in every mess at say an average rental of Rs. 4-4, or say a rough average of Rs. 20 per month per mess, which in all would come to about Rs. 600 per month (on the present basis); and if the attached messes were extended so as to include all students at present in unattached messes or other undesirable places, about Rs. 1,300 a month—a very plain impossibility. In this case, as in many others, Government is regarded as the *deus ex*

Newspapers and periodicals.

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machina; whereas the real solution is organisation by the messes or colleges. Hostels have already solved this question, mainly on their own initiative. Messes can do likewise.

Payment of certain servants.—Many superintendents of messes complained very bitterly of the way in which the menial establishments of the messes are organised. It seems that at present many servants in the messes are the direct servants of the students, the superintendents having very little control over them. It is almost needless to remark on the absurdity of this arrangement, and the solution does not require much elaboration. Colleges or the mess inspector should see that all servants in messes are directly under the superintendent. They should be paid or fined by him; every order should come from him. This should be enforced at once, as the superintendent's authority is very much minimised if he cannot control the servants. Many superintendents contended that the darwan should be paid not by the students but by Government. The darwan is a very important personage it is true, and very necessary for proper discipline insomuch as he controls the gate book. He should be directly under the superintendent, and this should be seen to by the mess inspector. A darwan in the pay of the students is worse than useless; but to be in the pay of students and to be paid by the students through the superintendent are different things. There does not seem to me to be any claim on Government for the pay of these menials. If Government pays a part of the wage of superintendents, it does quite enough. The further raising of the efficiency of messes depends on organisation in the messes, and such organisation should be centred in the superintendent, whose position should be made as secure and as authoritative as possible. The mess inspector, it seems to me, should see that superintendents have no complaints on this score.

(4) *Provision of adequate quarters for superintendents.*—This is a matter of great importance. It is very difficult—a fact which has been pointed out many times by many authorities—to secure good superintendents; and one of the main reasons why they cannot be secured is that adequate quarters have not been provided. As regards hostels, the opinion of every responsible person I consulted is that family quarters should be provided invariably. This has already been done in many hostels, and it is to be hoped that it will be a rule for the future. Type plans should always have this provision. It is not so easy to provide family quarters in messes, but that it is not impossible may be judged from the fact that family quarters have been provided in some cases in Dacca. In many cases some slight structural alterations would secure the privacy necessary: in other cases additions might be made to the house. In Calcutta houses are so much crowded together that it is not easy as a rule to adopt the latter method. In every case before such quarters are specially constructed a long lease should be made. It is obviously waste of money to reconstruct a house if it is to be occupied for only one year. But if longer leases are possible landlords may agree to certain alterations as a condition of the lease. In the case of houses to be built specially as messes there will be no difficulty. In many houses in Calcutta it will be impossible to have family quarters. In such cases the superintendent should have first choice of one or two rooms. His claims should always come *first*. The mess inspector, in apportioning seats for students, should always mark off the superintendent's quarters first, giving him adequate office room and living room.

Quarters for superintendents.

I do not consider that specific grants are necessary for this purpose. In the case of structural alterations or additions, the landlord should be made to do them as a condition of the lease. In other cases, Government might consider the giving of a grant in the case of really good houses; but Government should act warily in giving such grants, as the wily landlord will not fail to shift a burden if he possibly can.

Insistence on good quarters for superintendents and on grants for attached messes should secure a better type of superintendent than heretofore. Every mess should have, if at all possible—in fact I think that it should be made compulsory—a member of the college *teaching* staff as superintendent-in-chief. He should be given the necessary clerical staff, whether from the students themselves or the college does not matter. Sound superintendence is the most important element in the success of the mess scheme, and I strongly advise that the means suggested should be adopted towards making superintendence efficient.

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III.—Facts and figures.

I have tried to give in the previous section the general principles which should govern the policy of Government in the Calcutta mess scheme. I now proceed to examine these in the light of available funds.

The average number at present in attached messes (including Government messes in the university list) is approximately . . .	34	
The average number in unattached messes is .	17·9	(say 18)
Total number of students in attached messes .	1,007	(say 1,000)
Total number of students in unattached messes	590	(say 600)
Estimated number of students in private messes, with guardians, etc.	900	

That is, 1,000 students are housed at present in attached messes. If all the students are to be housed in attached messes, provision will have to be made for about 1,500 more students. Taking 34 as the average number of students in each messes, about 44 extra houses will have to be taken. There are however reductions to be made on account of several new hostels, for which provision has been made out of the non-recurring grants from the Government of India.

	Rs.
The average rental of the houses hired now by the University for mess purposes is	2,340
The total new rental will thus be Rs. 2, 340 × 44 . . .	1,02,960
Government share at 25 per cent.	25,740
Ditto at 30 per cent.	30,888

This is based on the actual figures of 1913-14. We may, however, deduct on account of hostels for which provision has already been made, say, students up to the number of 300, or say 9 houses :—

	Rs.
A rental of	21,060
Leaving a total rental of	81,900
Of which Government's share at 30 per cent. would be . .	24,570
Ditto at 25 ditto . . .	20,475

The sum of Rs. 24,500 (in round numbers) or Rs. 20,500 must be given in addition to the ordinary grant of Rs. 9,000 *plus* deficit, which last year amounted just over Rs. 15,000. The actual figures were—

Year.	Houses.	House rent.	Seat rent.	Deficit.	Percentage of deficit.
		Rs.	Rs.	Rs.	
1913-14 . .	25	58,514	43,358	15,156	25·9

The total bill on account of rent where the suggested system adopted would be approximately Rs. 42,000 per annum on the 30 per cent. basis, and Rs. 35,000 per annum on the 25 per cent. basis. The grant provisionally set aside for the messes, in addition to the old grant, is Rs. 15,000. The old grant (which averages in round figures for the last five years Rs. 13,000) *plus* the proposed grant amounts to only Rs. 28,000 per annum, or taking last year's figure of Rs. 15,156 as what Government may willingly give, Rs. 30,000 per annum. Clearly then, unless more money is forthcoming, there will not be enough funds to make the scheme complete in respect of rent. I have given estimates for 30 per cent. and 25 per cent., but I actually recommend the higher figure of 30 per cent. : for, in the first place, the lowest percentage ever paid by Government till now has been only once below 25 per cent. (in 1912-13 it was 24 per cent.), while the actual average for the last nine years is 30·3 ; secondly, any margin which might result in favour of the University

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can easily be utilised for the various needs of the messes; and, thirdly, the 30 per cent. is a moderate estimate in view of the actual amount spent for rents in Dacca messes which is 33⅓ per cent.

Summing up these estimates we have—

	Rs.
(*a*) Actual percentage, at 30 per cent. of rent, to be borne by Government	42,000
(*b*) Actual funds available	30,000

leaving a deficit of Rs. 12,000 on this account alone.

So far so good, but what of grants-in-aid? The mess inspector tells me that the grants-in-aid, despite any ideal heroics on the subject, will in every case be necessary for actual payment of superintendents. The sum, reckoned on the Provincial educational service basis, at one-half the Government rates is Rs. 730 per month; that reckoned for twelve months in the year is Rs. 8,760; for ten months in the year Rs. 7,300. But a difficulty arises here. Are we to reckon the salaries on the Provincial grade or subordinate educational service grade? The service gradings do not apply to private colleges; and we cannot well adopt the service gradings on the basis of the pay of these grades, because the two bottom Provincial educational service grades are the same as the two top subordinate educational service grades in pay. The Hon'ble Mr. Hornell, in an unofficial note dated the 27th September 1913, has suggested that all officers above Rs. 200 a month should be reckoned as on the Provincial educational service grade, and all officers under Rs. 200 a month should be on the subordinate educational service grade. All the mess superintendents in Calcutta being of the subordinate educational service grade, and likely to be of this grade for some time, we may accordingly reckon the sum required as pay on that grade. The sums are—

Scale.	*Per month.*	*Per year.*	*For ten months.*
	Rs.	Rs.	Rs.
Full subordinate educational service.	880+230*	13,320	11,100
Half subordinate educational service.	440+115*	6,660	5,550
Quarter subordinate educational service.	220+578*	3,330	2,775

N. B.—*Government colleges are not included, as they are managed separately.*

To this must be added an estimate for the additional messes (44—9), 35. The average number of students per mess being 34, estimate for the Provincial educational service and subordinate educational service payment is—

Scale.	*Per month.*	*Per annum.*	*For ten months.*
	Rs.	Rs.	Rs.
Full Provincial Educational Service	1,575	18,900	15,750
Half Provincial Educational Service	787-8	9,450	7,875
Quarter Provincial Educational Service	393-12	4,725	3,937-8
Full Subordinate Educational Service	1,050	12,600	10,500
Half Subordinate Educational Service	525	6,300	5,250
Quarter Subordinate Educational Service	262-8	3,150	2,625

(This, taking the average number of students at 34, does not include assistant superintendents).

I recommend that Government pay on a basis of only ten months a year, and that the scale be one-half the subordinate educational service scale.

* For assistant superintendents, according to Government scale.

GILCHRIST, R. N.—*contd.*

Thus for the complete scheme the estimates are—

	Rs.	
(i) Percentage of rent @ 30 per cent.	42,000	
(ii) Payment of half salary of superintendents, on subordinate educational service grade for ten months.	11,000	
TOTAL .	53,000	(in round figures).
The sum available, as noted above, is	30,000	
The deficit is	23,000	

The deficit of Rs. 23,000 makes one conclude that at present only a partial realisation of the scheme is possible. It may be possible for Government to supplement the sums given at present, but we can hardly expect Rs. 23,000 recurring grant all at once. All that may be done at present is to make the scheme as complete as possible on both the rent and Superintendent sides. I recommend accordingly that the requisite amount be set aside for the payment of one-half of the salary of superintendents on the subordinate educational service scale for ten months. I estimate that for the next year or two to be about Rs. 6,000 (on the 1913 basis it is Rs. 5,550 : with the addition of more houses the charges of superintendence will rise, and Government will have to meet that rise) ; the rest of the Rs. 15,000 to be given for rent purposes. I also recommend that Government guarantee *at least* Rs. 15,000, being the equivalent of the charges on the old basis, and that the University be allowed a reasonable amount of latitude in working their scheme. The University has been hampered somewhat in the past by a too strict censorship by Government. Provided the actual proportions demanded from Government are not above 30 per cent., and that the charges are rent properly so called, Government should not bind the University to actual maxima in rupees, annas, and pice. But for the sake of estimates Government must set down a figure, and that figure I have just given, *i.e.*, Rs. 6,000 for payment of superintendents and Rs. 24,000 as a reasonable sum at present for the payment of rent, Government on no account to pay more than 30 per cent. of the actual rent of the house.

All this depends of course on the understanding that : first, colleges in Calcutta will remain stationary in numbers ; second, that numbers in the present colleges do not increase. The latter eventuality is not likely, as Calcutta colleges are already overcrowded.

The mess inspector tells me that ten years would be a more feasible time limit than five. He says that he has actually had proposals from landlords to build houses for messes according to the university requirements, but the landlords demand long leases. While encouraging long leases in every way, I do not think that a five years' term of the grant will interfere with them. The University may safely make ten years' leases, but Government should have the opportunity of reviewing the position after five years. The University need not fear being " let down " by Government in the matter. Only the very best houses on the present list and those which may be specially built as messes will be taken on leases exceeding five years, and the University might safely make leases for twenty years—not only ten—for some of them. He is very optimistic indeed who can see Calcutta provided with hostels for all students in the space of ten years. Mr. Banerjea holds that no time limit should be set at all. The main reason for the time limit is that a rearrangement *may* be necessary after a number of years. If everything works out satisfactorily the system will be continued ; if in the meantime some unforeseen circumstances upset calculations some new basis may have to be adopted.

I should like it to be clear, however, that the time limit of five years is not a vital point in the proposed scheme. If the University feel unable to make long leases with the present conditions, they can be given a guarantee that long leases for messes will be honoured by Government.

The principles, then, which will govern the estimates are—

(1) 30 cent. of the rent of each attached mess will be borne by Government as far as funds allow. The actual sum available will give a good start to the

scheme. In fact, even were all the money required available, the scheme could not be made complete because of the limited supply of houses.

(2) Government will grant one-half the subordinate educational service grade scale for ten months in the year as payment to superintendents. The University will have to correlate these two things in the management of the messes in making the annual estimates.

(3) The University may make longer leases than the present term of the grant, *viz.*, five years. The five years is merely a sort of "break" when a review can be made.

(4) The University Students' Residence Committee will continue as managing authority.

Several minor points.

Before concluding this part of the survey of messes I wish to mention several points which though not directly or solely connected with the Calcutta Mess Scheme, are of considerable importance in the general question of housing students.'

Family quarters.

I have said so much about the subject of family quarters in hostels and messes already that I need scarcely mention the subject again. Doubts have been expressed by many people as to the feasibility of family quarters. I can say unhesitatingly that there need be no doubt about the subject at all. Where they have been established they are quite satisfactory. The difficulty is not one of morality or custom but one of architecture. Many Hindu professors will quite willingly live in messes with their families if proper building provision is made. Practically every one I consulted on this subject takes the point of view I have given.

The size of a hostel or mess.

Various opinions have been expressed as to the number of students which one superintendent can look after properly. Most opinions favour about 40. Some authorities say as few as 30. No authority gives more than 50. I had it repeatedly impressed on me that hostels should on no account be built for more than 50 students. In cases where there are to be more than 50 there should be quarters for more than one superintendent.

School boys in messes.

During my tours among messes I was often told that in the case of older brothers being at college and younger brothers at school, they should be allowed to live together. If a college is to be residential this is impossible. If the guardian system is continued it may be possible. But college students and schoolboys, whatever their relationship, should be kept rigidly apart. No residential college in England would ever suggest such a thing as joint school-and-college residence.

School hostels and messes.

On the other hand, the lack of school hostels and messes often makes it desirable that an elder brother should look after his younger brother. The real solution to the position is provision of school hostels and messes, but that is a problem outside my scope. I do not see any probability of schools being properly equipped in this way in Calcutta under the present scheme of things. The only way to early efficiency seems to be the establishing of a local body similar to a school board in the West—a body with powers of raising loans or imposing rates. It is quite outside the bounds of practical finance for Government to undertake any such scheme. Either the municipality or a separate body, or a Government-municipality-general body must be invited, or the matter left as it is, waiting for the slow improvement which the present system can give. The Hon'ble Mr. Hornell, in a paper recently at the Calcutta Social Study Society, has already suggested such a body for the interests of a general education. When the housing argument is added to the general argument, the solution suggested seems the only feasible one for securing efficiency within a reasonable time.

IV.—*Expenses of management.*

The expenses of management of the Calcutta mess scheme have been borne by Government, and I have the following suggestions regarding these :—

(*a*) *Contingent expenses.*—In previous years, when the mess scheme was under the direct control of the Government, Government granted a sum for contingent expenditure for petty repairs in houses used as messes (*vide* Director of

GILCHRIST, R. N.—*contd.*

Public Instruction's order No. 344—T., dated 29th June 1906, and General Department order No. 574 T.—G., dated 19th May 1905). The annual contingent grant at that time for petty repairs was Rs. 300. Having regard to the number of houses at present engaged and to the likely increase of the number of houses to be engaged in the near future, I recommend that a sum of Rs. 350 per annum be granted to the University on this account. Such an expenditure will be amply justified, for petty alterations can often be made in mess houses by which additional rents can be secured from the students, for example, the erection of partitions in many cases will secure one or two additional seat rents.

(*b*) *Conveyance allowance.*—The conveyance allowance given to the mess superintendent at present is Rs. 30. I am convinced that this amount is insufficient. The mess inspector at present finds it very difficult on many occasions to find conveyances at all which is scarcely to be wondered at, seeing that much of his work is done in the early morning and late at night. He tells me that at present he has often to pay double fares for carriages because of the hours at which he has to engage them. I recommend that conveyance allowance of Rs. 70 a month be given to him for the upkeep of a horse and carriage. This amount cannot be considered excessive: in fact it is an absolute necessity, especially in view of the increase in the number of messes since the sum of Rs. 30 per month was sanctioned, and the probable further increase in the future.

(*c*) *Staff.*—At present there are 70 messes, attached and unattached, and if these be inspected four times a month the mess inspector will have to inspect about 10 or 11 messes a day. The office work is becoming heavier every year, and, further, besides tours of inspection, surprise visits have to be made very frequently. To ensure more frequent inspection one assistant is necessary to help the inspector in his inspection work and also in his office work. An additional peon is also necessary, as the peon at present sanctioned for the office has to accompany the inspector on his tours of inspection. I recommend that it will be necessary to pay a salary of Rs. 50 a month to the additional assistant inspector; Rs. 8 a month will be necessary for the peon. The total comes to Rs. 696 a year.

In all, then, I recommend an increase of Rs. 1,230 per year for the management of the Calcutta mess scheme. I have taken this as separate, as I do not consider that the amount should be met out of the proposed additional Rs. 15,000. Some other source may be found to provide the small sum required.

V.—*Students' messes outside Calcutta.*

(i) *Historical.*—At the beginning of the Calcutta mess scheme little heed was given to mufassal messes. It soon became apparent, however, that to make the Calcutta scheme effective it would be necessary to consider the mufassal. In his letter No. 399 of the 31st March 1906 Mr. (now Sir Archdale) Earle pointed out that it would be impossible to submit a satisfactory scheme for messes unless the mufassal messes were taken into account. Mr. Earle noted that a considerable amount of uneasiness had arisen among principals of colleges in Calcutta from the feeling that the interests of their colleges would be prejudiced unless rules similar to the Calcutta rules were introduced for the mufassal colleges. They feared that the students would chafe under the new discipline introduced and as a result would leave Calcutta colleges for mufassal colleges. Mr. Earle, accordingly in order to equalise matters, authorised Mr. Tipping to make arrangements to introduce a similar scheme in the mufassal from the beginning of the year 1906. The scheme for the mufassal was practically the same as that adopted for Calcutta, that is to say Government was to pay the difference in rent between the actual rent recovered from the students and the amount paid for the house. It was also agreed that a certain amount should be given for the payment of salaries to superintendents, and on these principles seven colleges in the mufassal received grants from Government. In letter No. 3038—T.—G., sanctioning these proposals, Government accepted the principles, but at the same time

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emphasized the principle laid down in Government of India letter No. 767, dated the 27th July 1912, in which it was stated that all hostels should ultimately be rendered self-supporting. In this connexion special attention was drawn to the remarks of the Government of India in connexion with a special grant of Rs. 8,000 a year for the three years from 1906 to 1909 for the improvement of collegiate education. The Government of India wrote as follows :—

> "The objects to which the Government of India consider that the special grant should generally speaking be devoted are primarily for the improvement of the efficiency of colleges in those respects in which an inspection by the University shows them to be defective, and for the encouragement of the growth of the residential or hostel system. It is important that adequate arrangements should be made for the residence of those students who do not lodge with their parents, guardians or relatives, and for the supervision of resident students. The Government of India are pleased to observe that in some provinces voluntary effort is being evoked to a marked extent by the judicious action of the local Governments, and they think it desirable to encourage such benefactions by giving preference, in cases of doubt, to those projects in which a great disposition is shown to supplement the aid given by Government by private effort. They do not however desire to limit the application of grants to non-recurring expenditure, as they are of opinion that improvement in teaching should form part of the programme of reform now being carried out."

The Education Department, acting on these principles, examined many individual cases; and in letter No. 78—T. of the 23rd September 1909 the proposals were submitted to Government. These proposals, in a word, were that the mufassal scheme should be continued for three years with effect from the 1st March 1909 at an annual cost of Rs. 1,672. The proposals were sanctioned by Government (in letter No. 4788 of the 20th December 1909), with the saving clause that though Government would have to bear the cost for a few years longer, the charges should not become a permanent charge on the Provincial revenues.

Present Position.—The following is the list of messes of colleges outside Calcutta registered by the Students' Residence Committee for 1913-14 :—

List of messes, 1913-14.

*Attached messes.**		*Unattached messes.**	
Hooghly	1	Burdwan	1
Krishnath College, Berhampore	4	Cooch Behar	4
Wesleyan College, Bankura	1	Comilla	9
B. B. College, Muzaffarpur	1	Bankura	1
Victoria College, Comilla	1	Krishnagar	1
Broja Mohan College, Barisal	2	Average number per mess	16·1
Rajshahi College	8		
Average number of students in each mess	25·3		

A glance at the list will show that there is no general principle regulating the relations of messes outside Calcutta with the University. In the first place it will be noted that the messes of Dacca, the biggest educational centre in Bengal outside Calcutta, are not mentioned in the Calcutta University list.

Various considerations.

Students' residence at Dacca has a system of its own. The Dacca scheme originated in a suggestion of the members of the local visiting committee of the University of Calcutta. Mr. Sharp, acting on their suggestions, drew up the scheme, which at present is as follows. The Dacca City Educational Council, which is composed of the commissioner of the Dacca division, the district

(1) The Dacca scheme.

* There is practically no difference between attached and unattached in the mufassal as a rule. There is as a rule only one college in each centre, and the messes are all attached to it. In some cases where subventions are given the messes are called attached.

GILCHRIST, R. N.—*contd.*

magistrate, the inspector of schools, heads of educational institutions and private members of recognised position in the town, is the chief body. Of that council there are various committees—

(*a*) There is a college committee which is recognised by the University as a local branch of the Students' Residence Committee of the University. This committee works under the Calcutta University regulations, that is to say it deals with the residence of college students.
(*b*) There is a school committee, for the residence of school boys.
(*c*) There is a finance sub-committee, presided over by the district magistrate. Its duties are purely financial.
(*d*) There is a committee presided over by the civil surgeon. This committee is for medical supervision.

The second, third, and fourth of these committees are sub-committees of the main body of the Dacca City Educational Council. The secretary of the Council, as well as of all the committees under the Council, is the proctor. The Proctor selects all the houses, which in their turn are inspected by a competent medical authority. The Proctor, who is a full-time officer, during the year inspects the messes from time to time, seeing that the rules and regulations of the Committee are respected.

The Dacca scheme has received the unqualified approval of all the authorities concerned. The Hon'ble Mr. Beatson-Bell, for example, says (in a letter written in September 1913) that "the proctor has been able to effect much improvement in the life of the students." The numbers of students and schoolboys coming under this scheme have risen rapidly, although the scheme was introduced so recently as 1911. In 1911 and 1912 there were 739 boarders. In 1913-14 the number had risen to 973.

The collegiate hostels at Dacca are directly under the colleges, but the Dacca City Educational Council has under its control all non-collegiate hostels and messes. In Dacca for the year ending 31st March 1913 there were 40 messes. In addition to these messes in Dacca there are 9 Government and 3 mission hostels. The messes were distributed amongst 10 colleges and schools. Ten were mixed messes, two of these necessitated by caste considerations.

The success of the Dacca scheme is due largely to the very liberal way in which Government has treated it. Government has made up deficits of rent to cover one-third of the total house rent paid, and has also sanctioned a scale of payment to superintendents. Not only so, but a capital grant was given for improvement and equipment, Rs. 600 in 1913-14 being spent on improvements. Such improvements are the dividing of rooms so as to suit the number of students, and the purchasing of furniture for the use of superintendents. Further, a special grant is given for medical aid. Five practitioners of the assistant surgeon class and one of the sub-assistant surgeon class are paid small fixed allowances in addition to a capitation grant of annas 2 per head per student. Government provides medicines free for the boarders. A special grant has been given also to poor Muslim students. It is not difficult for a scheme to be successful with such liberal grants from Government. These grants present a striking contrast to the doles given to the Calcutta messes, which are directly under the parent body,—the Students' Residence Committee. No capital grants, no medical aid grants, and no grants for superintendents are given to Calcutta at present at all; and from the Rs. 15,000 which has been set aside provisionally by Government for the Calcutta scheme only a fraction of the benefits of the Dacca scheme can be obtained.

The success of the Dacca scheme undoubtedly points a moral. The scheme, as Mr. Archbold expressed it to me, is expensive but fully worth the expenditure. Relatively speaking the Calcutta scheme is very cheap, especially in consideration of the fact that schools are not taken into account in Calcutta at all. Perhaps Government has been unduly liberal in the Dacca scheme, taking a burden where the burden should have been placed on other shoulders; but the fact remains that there is a striking contrast between the treatment of the two centres. Such differential treatment should if possible be avoided. It would be a most salutary thing were Calcutta and Dacca in the same way whatever the principles adopted; but from the exigencies of finances at the present time that is impossible. I have already given my recommendations for the Calcutta scheme,

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and I trust that the relatively small amount of money available for the messes may soon be considerably augmented.

In the second place, several of the messes mentioned in the University list are outside the scope of our present inquiry. Thus those at Muzaffarpur and Cooch Behar have no direct reference to the Government of Bengal; others—at Krishnagar and Hooghly—are directly under Government; while others in the list were abolished by the time I was able to visit the places. In the other cases (*viz.*, Burdwan, Berhampore, and Comilla) extraneous help is given, either in the grant of money or giving of free houses or partially free houses, from private sources. Further, the messes in the mufassal centres are very adventitiously formed. Some are taken (for 4th and 2nd year students) for only a fraction of the year (July to December). Again, there may be great variation in the number of messes required. The messes are all small (the average number in a mufassal mess is, attached 23·2, unattached 16·1), and one year there may be five messes, another year ten, and the next year none at all. The numbers of students vary considerably at some mufassal colleges; but in no case need there be serious unforeseen difficulties, as the University will allow only a certain number of students in proportion to the staff at the college. Further, it is relatively cheap to build hostels in the country districts, and, what is more, there is not much danger of marked differential treatment as between hostels and messes, because the rents of houses suitable for messes are quite moderate. There is no trouble whatsoever on this head in the mufassal at present.

Some under other Local Governments.

Private help in cases.

Variation from year to year in numbers.

Cheapness of hostels.

The housing problem in the centres given in the University returns of messes is, relatively to Calcutta, no problem at all. There is no difficulty in securing adequate houses with sufficiency of air and light. Supervision is easy, as the colleges are as a rule small, as are the towns in which they are situated. In the smaller colleges "shady" students are easily discovered, and in small towns students cannot depart far from the paths of rectitude without being discovered by some one. In no case did any responsible authority in the mufassal make any complaints about the difficulty of housing students, and, where messes did exist, I found that responsible superintendents were in charge. Sometimes a students' mess was next door to a professor's house, and in one or two cases family quarters were provided in the mess for superintendents. In almost all cases satisfactory reports were given. (In one or two cases complaints of minor importance were given regarding superintendence.) Nor, again, is the guardian system abused in smaller centres as the guardians are usually known to the principals or professors.

The mufassal problem, no problem.

I repeat then—and behind my statement is the authority of every principal I interviewed—that the mufassal housing problem is relatively to the Calcutta problem no problem at all.

For one thing the mufassal colleges are at present on the whole well provided with hostels. Only a few students reside in messes, but messes will have to continue from such cause as religion or caste. Thus in a college pre-eminently Hindu it would be waste of money to build a special house for a small and varying number of Muhammadans, or *vice versâ*. The caste difficulty also will have to be reckoned with longer in the mufassal than in Calcutta.

Hostels in mufassal.

There is a further point, which, however, is not for me to argue in this place. If housing is to be taken account of at all in university education, it seems only reasonable that students should be attracted to centres where housing is easy. (By housing I imply not only bricks and mortar, but the whole manner of life.) The question whether the University may wish to encourage the development of mufassal colleges from points of view other than that of housing belongs to other spheres of discussion; but I can definitely say that from the housing point of view it is as clear as daylight that some centripetal force should be brought to bear on Calcutta mufassal colleges, which should be developed in every possible way. While a lakh of rupees will buy a patch of land in Calcutta it will build two hostels in the mufassal; and that mufassal hostel will have clean air and large playing fields while the Calcutta hostel, which will cost about four times as much, will just have enough ground to stand on. It makes

Development of mufasal colleges.

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one's heart bleed for the Calcutta students to see the beautiful open squares and airy rooms of mufassal hostels and colleges, as contrasted with the stuffy surroundings of the Calcutta messes. Why students should come to the expense and crowds of Calcutta (especially in view of the often repeated cry of poverty) when the mufassal colleges offer a free and fuller life I cannot say. It is perhaps because there is a certain *tone* in Calcutta University life. That may be so, but as numbers stand at present and as numbers are likely to be, I consider that Government and the University should direct their forces whole-heartedly to the double object of having the mufassal colleges adequately housed (with hostels) and seeing these colleges fully equipped with staff in order that the colleges may have fairly wide affiliation. One of the main reasons why students rush to Calcutta is that the colleges in Calcutta offer a wider range of subjects.

Personally I think it would be far more economical to leave Calcutta to the existing hostels and those already provided for from capital grants and the attached messes, and to utilise all big grants for hostels for mufassal purpose. After that Calcutta may be attended to. The economy will come in through the action of the centripetal forces of mufassal colleges keeping students who otherwise would go to Calcutta to themselves.

Recommendations.—After careful consideration of the various points which I have raised in connection with messes in the mufassal I can only give one main recommendation, and that recommendation, at least for the present, does not involve any expenditure. I recommend that the Dacca scheme be extended to every mufassal centre where there is a university college. In the first instance, I recommend that centres where students' messes exist should have such a committee established without delay. I do not think that the elaborate constitution of the Dacca City Educational Council need be carried to the smaller centres. Dacca is the only place outside Calcutta which has more than one university college, and that may be a reason for the elaborate constitution of the Council. In smaller centres however there is only one university college, with one or more schools. It would be quite sufficient, were a committee constituted as follows:—

President—District magistrate.
Members—Principal of the University College.
Inspector of schools.
One professor of the college.
Head masters of the local zilla or collegiate schools.
Civil surgeon.
One or two men of standing in the town or district.

The proctor, who would be *ex-officio* secretary of the Committee, need not be a full-time officer in these smaller centres. A local educational officer could act as proctor in addition to his own work. An allowance would be necessary for him.

The Committee if constituted would be responsible for the various branches of administration at present done nominally by sub-committees of the Dacca City Educational Council. As far as I could gather these sub-committees of the Dacca City Educational Council meet very rarely; some of them never.

This is the only recommendation I wish to make for mufassal colleges. It does not at the moment involve any expenditure; but in the future some expenditure must of necessity be involved, for there will have to be an allowance to the proctor, and there will have to be allowances for such schemes as the committees may send up and are approved of by Government. I suggest that Rai Sahib Bidhu Bhushan Mazumdar, the proctor at Dacca— be asked to initiate the schemes in the various centres in Bengal. Regarding the centres outside Bengal, we need take no action in the meantime.

Two additional points of importance must be noted. First, this is a matter largely concerning the University. The local body must be regarded as a branch of the Students' Residence Committee. At present the only control exercised over the messes is that of registering their names, places, and numbers of residents. Government is concerned mainly with the schools. Not only so, but in certain cases the Bengal Government can do no more than recommend (*e.g.*, in Muzaffarpur and Cooch Behar). Secondly, where private aid is given already, every effort should be made to continue that private aid. The encouraging of private effort in local centres might help to perfect the systems more than grants from Government can. It is sad to think that Calcutta should show such

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a slight example in the way of private help. The example is at present given by the mufassal.

In concluding this report, I wish to thank all the gentlemen—principals, professors and superintendents—who so kindly gave me their advice on the various points raised. I thank especially the mess inspector, Babu Sita Nath Mukherjee, who supplied me with many figures and who gave me guidance in finding many of the messes situated in the devious streets of Calcutta.

The 26th October 1914. R. N. GILCHRIST.

VI.—Appendices.

(A)

Serial No.	Year.	Total number of seats occupied by students.	Total number of seats occupied by superintendents.	House rent.	Seat rent.	Deficit.	REMARKS.
				Rs.	Rs.	Rs.	
1	1905-06 . .	537*	..	22,146	15,703	6,443	*Including students of Government college messes.
2	1906-07 .	419*	10	32,307	19,918	12,389	
3	1907-08 . .	514*	38	26,146	19,174	6,972	
4	1908-09 . .	507*	38	30,195	19,144	11,051	
5	1909-10 . .	773*	58	43,922	28,120	15,802	
6	1910-11 . .	700*	25	39,817	28,817	11,000	
7	1911-12 . .	631†	40	39,403	28,111	11,292	† Excluding students of Government college messes.
8	1912-13 . .	834†	63	53,238	40,452	12,452	
9	1913-14 . .	925† +107 Government college students. =1,032	64	58,514	43,358	15,156	

(B)

NUMBERS IN COLLEGES.

1913-14.

College.	Number of Students.
Bangabasi College	796
Medical College	757
Metropolitan Institution	1,223
Presidency College	922
University Law College	1,533
Scottish Churches College.	1,000
Ripon College	1,566
City College	1,368
Sanskrit, Central, St. Xavier's, London Missionary Society's and Church Missionary Society's Colleges, about	900
TOTAL .	10,066

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(C)

PROPORTION OF HOUSE RENT TO SEAT RENT AND DEFICIT MET BY GOVERNMENT GRANT.

Serial No.	Year.	Seat rent.	Deficit.
1	1905-06	70·9	29·1
2	1906-07	61·7	38·3
3	1907-08	73·3	26·7
4	1908-09	63·4	36·6
5	1909-10	64·0	36·0
6	1910-11	72·4	27·6
7	1911-12	71·3	28·7
8	1912-13	76·0	24·4
9	1913-14	74·5	25·9

(D)

Attached messes.

TOTAL NUMBER OF SEATS OCCUPIED BY STUDENTS.

1	1905-06	537	
2	1906-07	419	
3	1907-08	514	
4	1908-09	507	
5	1909-10	773	
6	1910-11	700	
7	1911-12	631	(Excluding students of Government colleges which manage their own messes.)
8	1912-13	834	
9	1913-14	928	

(E)

GOVERNMENT SCALE FOR PAYMENT OF SUPERINTENDENTS.

College hostels.

Number of Boarders.	Superintendents in the Provincial Educational Service.	Superintendents in the Subordinate Educational Service.	Assistant Superintendents.
	Rs.	Rs.	Rs.
20 students or less	30	20	..
Between 21 and 40 students	45	30	..
„ 41 „ 70 „	60	45	20
„ 71 „ 100 „	75	60	30
„ 101 „ 200 „	100	75	40
Above 200 students	125	90	50

GILCHRIST, R. N.—*contd.*

School hostels have a scale likewise—

NUMBER OF BOARDERS.	Allowance for superintendents.	Allowance for assistant superintendents.
	Rs.	Rs.
20 boys or less	15	..
Between 21 and 30 boys	20	..
„ 31 „ 40 „	25	10
„ 41 „ 50 „	30	15
„ 51 „ 75 „	40	20
„ 76 „ 100 „	50	25
Above 100 boys	60	30

In Eastern Bengal the arrangements are different, the scale of remuneration being as follows:—

NUMBER OF BOARDERS.	Rate of remuneration.
	Rs.
1—15	10
26—40	15
Over 41	20

The Eastern Bengal scale has not yet been assimilated to the Western Bengal scale.

(F)

DACCA SCHEME FOR PAYMENT OF SUPERINTENDENTS.

(Note by Rai Sahib Bidhu Bhusan Mazumdar, Proctor).

A scheme of expenditure on account of remuneration to the mess superintendents in the town of Dacca to be paid out of the proposed recurring grant of Rs. 16,120 per annum, viz., *Rs. 10,000 from the Imperial grant of Rs. 1,32,000 for improvement of hostels, and Rs. 6,120 ordinary grant from Provincial revenues*—vide (*a*) *Director of Public Instruction's letter No. 5439, dated the 4th March 1914, and* (*b*) *Assistant Director of Public Instruction's demi-official letter No. 854, dated the 19th March 1914.*

THE present scale of remuneration to the superintendents at Rs. 10 a month for a group of 25 boarders or less, at Rs. 15 for 26 to 40 boarders, and Rs. 20 for 41 and more does not appear to be quite satisfactory, inasmuch as it does not provide for increased remuneration in proportion to an increase in the number of boarders, and the rate is certainly very low and does not attract really capable men to work as superintendents, though the duties attached to this office, heavy and responsible as they are, require that the *personnel* of the supervising staff should be very carefully selected. I am therefore inclined to suggest that they should be paid by the capitation system, and I recommend that the rate should be Re. 1 a month per boarder. The system will have the additional advantage of inducing the superintendents to have all the seats in their respective houses filled up, which means that Government will have to pay less to make up deficits in house rent. The local circumstances also suggest that the maximum remuneration payable to a resident superintendent should not exceed Rs.——, the minimum being Rs. 15 a month.

GILCHRIST, R. N.—*contd.*

In bigger college messes it is proposed to appoint paid monitors instead of assistant superintendents, selection being made out of the boarders of active habits and good character. For every set of 15 boarders in a college mess a monitor may be appointed, and it is proposed to pay him a stipend of Rs. 8 a month; while in a school mess, where the number of boarders exceeds 20, an assistant superintendent on Rs. 8 a month is proposed to be appointed, selection being made from among the teaching staff. As the number of boarders may vary from time to time, and the payment under the proposed system will depend upon the number of boarders actually residing in a mess, it is proposed to appoint a non-resident superintendent on Rs. 100 a month to assist the inspector of residence in the supervision and control of the large staff of resident superintendents, assistant superintendents, and monitors, numbering about 74. The accompanying statement will show the financial aspect of the scheme. It may be noted here that in the near future the total expenditure is not likely to amount to Rs. 15,636 a year, as the houses selected for the residence of students cannot be expected to be fully occupied. It is hoped that the system will work equally well when the Dacca University is started and the school enclave begins to work.

PAYMENT OF SUPERINTENDENTS FOR ATTACHED MESSES, CALCUTTA, RECKONED ON GOVERNMENT SCALE.

(*N.B.*—Messes of Government institutions are managed separately.)

Mess.	Name of college.	Number of students.	Allowance to superintendent according to Provincial educational service scale.	Allowance to superintendent according to half Provincial educational service scale.	Allowance to superintendent according to quarter Provincial educational service scale.	Allowance to superintendent according to subordinate educational service scale.	Allowance to superintendent according to half subordinate educational service scale.	Allowance to superintendent according to quarter subordinate educational service scale.
			Rs.	Rs. A.	Rs. A.	Rs.	Rs. A.	Rs. A.
61, Mechua Bazar Street	Presidency College	30	45	22 8	11 4	30	15 0	7 8
76, Upper Circular Road	Ditto	16	30	15 0	7 8	20	10 0	5 0
68, Mirzapur Street	Medical College	16	30	15 0	7 8	20	10 0	5 0
85, Harrison Road	Ditto	35	45	22 8	11 4	30	15 0	7 8
22, Harrison Road	David Hare Training College.	10	30	15 0	7 8	20	10 0	5 0
71-1, Patuatola Lane	University Law College.	20	45	22 8	11 4	30	15 0	7 8
13, Sumbhu Chandra Chatterji Street.	Ditto	81	75+30*	37 8+15*	18 12+7=8*	60+30*	30 0+15*	15 0+7=8*
42, Harrison Road	Ditto	20	45	22 8	11 4	30	15 0	7 8
2, Mirzapur Street	..	30	45	22 8	11 4	30	15 0	7 8
145, Cornwallis Street	Scottish Churches College.	17	30	15 0	7 8	20	10 0	5 0
176, Cornwallis Street	Ditto	23	45	22 8	11 4	30	15 0	7 8
135, Manicktola Street	Ditto	16	30	15 0	7 8	20	10 0	5 0
107, Amherst Street	Metropolitan Institution.	47	60+20*	30 0+10*	15 0+5*	45+20*	22 8+10*	11 4+5*

* For assistant superintendents (as allowed by scale).

PAYMENT OF SUPERINTENDENTS FOR ATTACHED MESSES, CALCUTTA, RECKONED ON GOVERNMENT SCALE—*continued.*

Mess.	Name of college.	Number of students.	Allowance to superintendent according to Provincial educational service scale.	Allowance to superintendent according to half Provincial educational service scale.	Allowance to superintendent according to quarter Provincial educational service scale.	Allowance to superintendent according to subordinate educational service scale.	Allowance to superintendent according to half subordinate educational service scale.	Allowance to superintendent according to quarter subordinate educational service scale.
			Rs.	Rs. A.	Rs. A.	Rs.	Rs. A.	Rs. A.
8-1, Beadon Street . .	Metropolitan Institution.	23	45	22 8	11 4	30	15 0	7 8
12-1, Nandi Kumar Choudhuri's Lane.	Ditto . .	46	60+20*	30 0+10*	15 0+5*	45+20*	22 8+10*	11 4+5*
83-1, Muktaram Babu's Street.	Ditto . .	49	60+20*	30 0+10*	15 0+5*	45+20*	22 8+10*	11 4+5*
66, Harrison Road & 6-3, Ramanath Mazumdar's Street.	City College .	51	60+20*	30 0+10*	15 0+5*	45+20*	22 8+10*	11 4+5*
1-2, Jay Narayan Chandra Lane.	Ditto . .	47	60+20*	30 0+10*	15 0+5*	45+20*	22 8+10*	11 4+5*
75-5A to 9A, College Street.	Ditto . .	43	60+20*	30 0+10*	15 0+5*	45+20*	22 8+10*	11 4+5*
39-1, College Street . .	Ditto . .	21	45	22 8	11 4	30	15 0	7 8
39, Mirzapur Street . .	Ditto . .	24	45	22 8	11 4	30	15 0	7 8
60, Mirzapur Street . .	Ripon College .	66	60+20*	30 0+10*	15 0	45+20*	22 8+10*	11 4+5*
41, Mirzapur Street . .	Ditto . .	46	60+20*	30 0+10*	15 0	45+20*	22 8+10*	11 4+5*
14, Harrison Road . .	Ditto . .	36	45	22 8	11 4	30	15 0	7 8
127A, Bow Bazar Street .	Ditto . .	45	60+20*	30 0+10*	15 0	45+20*	22 8+10*	11 4+5*
63 and 64, Serpentine Lane.	Bangabasi College .	45	60+20*	30 0+10*	15 0	45+20*	22 8+10*	11 4+5*
159, Bow Bazar Street .	Ditto . .	34	45	22 8	11 4	30	15 0	7 8
160, Bow Bazar Street .	Ditto . .	29	45	22 8	11 4	30	15 0	7 8
44-3, Harrison Road .	University M. A. classes.	23	45	22 8	11 4	30	15 0	7 8
TOTAL	..	..	1,410+230*	705+115*	352 8+57=8*	1,000+230*	500+115*	250+57=8*

* For assistant superintendents (as allowed by scale).

GILCHRIST, R. N.—*contd.*

ADDENDUM.

In accordance with an unofficial requisition, I submit the following table regarding charges for medical attendance. All colleges * attached to the University of Calcutta were asked to state their systems of medical supervision. I have arranged the various answers in tabular form; and from the table it will be seen that each individual case has its own characteristics. The following general points may be noted:—

(*a*) In Government colleges no medical fee is levied on the students. (In Krishnagar College and Dacca College there is a fee of two annas a month for medicines.)

(*b*) In many private colleges there is no charge of any kind, for either medical attendance or medicines.

(*c*) In several colleges there are appreciable charges. These charges are highest in colleges with European students. Perhaps the most reasonable system of all is that of the Scottish Churches College, where there is a monthly charge of eight annas per head among hostel students.

(*d*) There does not seem to be any valid reason why students should not pay for medical attendance. The only argument to the contrary which I have seen is to the effect that college authorities insist on giving better medical attendance than the students if left to themselves would seek. This, however, does not imply that *all* the burden should fall on the colleges. A fair and reasonable fee cannot be grudged. The example of the Scottish Churches College or that of the Wesleyan College, Bankura, seems to be the best, though the latter is certainly not too extravagant.

28th October 1914. R. N. GILCHRIST.

Name of college.	Fees given to doctors in hostels.	Fees charged from students in hostels.	Fees given to doctors in messes.	Fees charged from students in messes.	REMARKS.
(1) Bishop's College.	Rs. 360 a year.	..	..	..	Rs. 120 are given to a dispensing compounder.
(2) Metropolitan Institution.	..	..	Rs. 480 a year as carriage allowance.	..	The doctor gets Rs. 40 a month as carriage allowance. No fees are given.
(3) City College.	..	..	..	..	The students call in their own doctors and pay them from their own pockets.
(4) Midnapore College.	..	..	..	..	There is a college hostel. The students make their own arrangements.
(5) Ananda Mohon College, Mymensingh.	Rs. 300 a year	..	..	..	The college has two hostels—one for Hindus the other for Muhammadans—and a mess. The students pay the carriage hire of the doctor. The doctor charges no other fees.
(6) Serampore College.	Rs. 360 a year	..	..	..	No special medical fees are taken from students, they are included in the general hostel establishment charge.

* [The following colleges did not reply—Sanskrit College, Narail; Victoria College, Utterpara College, C. M. S. College, Calcutta, and Bangabasi College.

GILCHRIST, R. N.—*contd.*

Name of college.	Fees given to doctors in hostels.	Fees charged from students in hostels.	Fees given to doctors in messes.	Fees charged from students in messes.	REMARKS.
(7) L. M. S. Institution, Bhowanipore.	..	..	..	..	Medical charges are met partly by the college funds and partly by the students.
(8) Victoria College, Comilla.	Rs. 120 a year	..	..	..	Free medical attendance is offered to the students.
(9) Scottish Churches College.	..	Annas 8 a month per boarder.	..	..	The fees paid by the students are paid to the medical officer in charge of each hostel. There are two medical officers for the hostels and messes of this college.
(10) Loreto House, Calcutta.	Rs. 400 a year	..	..	..	No extra fee is levied from students for medical attendance is included in the monthly fee of Rs. 35.
(11) St. Xavier's College.	It is not stated what allowance is given to the doctor.	Re. 1 per month from each student.	..	..	It is stated that in the hostel for Christians the students are attended by Lt.-Colonel Maynard, the medical officer in charge of the college.
(12) Central College, Calcutta.	..	..	..	..	There is no hostel or mess attached to the college. The students who reside in private lodgings make their own arrangements.
(13) Burdwan Raj College.	..	..	..	..	There is one mess only attached to the college. The doctors are paid by the Maharaja of Burdwan, and the students pay nothing to the doctors.
(14) Diocesan College.	..	Re. 1 per mensem for medical expenses per student.	There is no mess attached to the college.	..	There is no system of medical attendance. A trained nurse lives in the college premises. Serious cases are submitted to the civil surgeon.
(15) Jagannath College, Dacca.	Rs. 240 a year	..	..	Charged, but the amount is not given.*	The doctor is in charge of the Hindu and Muhammadan hostels. If any other doctor is called at the request of the boarder, the boarder pays the fees.
(16) Ripon College.	..	..	..	..	There is no hostel attached to the college. There are some attached where the boarders make their own arrangements for medical attendance.

*Medical attendance at messes attached to the college is supplied by the Government inspector of messes, who appoints a number of local medical practitioners for the purpose. A small fee is charged from the boarders.

GILCHRIST, R. N.—*contd.*

Name of college.	Fees given to doctors in hostels.	Fees charged from students in hostels.	Fees given to doctors in messes.	Fees charged from students in messes.	REMARKS.
(17) Broja Mohan College, Barisal.	..	..	..	..	There are no regular and permanent arrangements of medical attendance at the hostels and messes attached to the college, and the cost of medical attendance is borne by the students. This college wants funds for the purpose from Government.
(18) Edward College, Pabna.	..	..	..	..	This college council makes no arrangement for medical attendance, the students themselves meet the whole expense. This college wants funds for the purpose from Government.
(19) Wesleyan College, Bankura.	Rs. 500 a year	Rs. 2-8 a year is charged from each student.	..	..	There are 88 students in the college hostel and 50 students in attached messes. The doctor attends both students in hostels and messes.
20) Krishna Chandra College, Hetampur.	Rs. 60. „	Annas 8 a month is charged from each boarder.	..	..	The doctor attends the boarding house in case of emergency.
(21) Krishnath College, Berhampur.	Rs. 210 „	No fees are charged from students.	..	..	
(22) Hindu Academy, Daulatpur.	Rs. 1,200 a year.	No fees are charged.	No messes attached to the college.	..	The college is mainly a residential one and the medical charge is in the hands of a graduate of the Medical College. The doctor is not paid anything in the shape of fees and no fees are charged from students in the hostel.
(23) Krishnagar College.	Rs. 500 a year	Annas 2 per month per boarder for medicine.	..	Annas 2 per boarder for medicine.	A medical officer is in charge of the college hostel, the collegiate school hostel and the unattached mess of the college. Draws Rs. 30 for 10 months in the year, except the months of May and June during which he gets Rs. 30 per month for attendance at the collegiate school hostel.
(24) Chittagong College.	Rs. 600 a year or Rs. 50 a month.	No fees are charged from boarders of the college hostels.	..	..	Recently a monthly allowance of Rs. 80 has been sanctioned for this medical officer. There is no mess attached to the college.

GILCHRIST, R. N.—*contd.*—KO, TAW SEIN.

Name of college.	Fees given to doctors in hostels.	Fees charged from students in hostels.	Fees given to doctors in messes.	Fees charged from students in messes.	REMARKS.
(25) Bethune College *	..	No fees are charged from boarders.	No mess is attached to the college.	..	The medical officer attached to this college is in charge of several other hostels attached to Government institutions on a consolidated allowance of Rs. 140 a month.
(26) Rajshahi College.	Rs. 600 a year or Rs. 50 a month.	No fee is charged from students.	..	..	There is an allotment of Rs. 300 a year and the students get medicines from Government. There is no Government arrangement for the medical supervision of the messes attached to this college and the students make their own arrangements for medical supervision and medicine.
(27) Hooghly College .	Rs. 50 a month or Rs. 400 a year.	No fee is charged from students as doctor's fees.	..	..	The medical officer is in charge of the college Hindu hostel, the college Muhammadan Hostel and the Madrassah hostel. The boarders of the hostels get medicines from the Imambarah Hospital free of charge.

KO, TAW SEIN.

The principles involved are of far-reaching importance, and they affect racial, national, political, religious, and economic considerations. India, like China, is suffering from overpopulation, and the remedies required appear to be of a religious and economic nature. Religion brings peace of mind and contentment, and economic reforms produce comfort to the physical body and peace to one's surroundings. So long as religion is relegated to oblivion, and there is an insufficiency of food and comfort among the middle and lower classes, so long there are bound to be, from time to time, mutterings, agitations, and risings. Such a state of affairs is chronic to an overpopulated country which has an adverse balance of trade, whose handicrafts have been, more or less, superseded by the introduction of machinery, and whose avenues of livelihood have become restricted from decade to decade.

Much relief will be afforded to India, if the tide of emigration from congested localities is guided to East Africa and Mesopotamia, if the indigenous industries are revived, if the eastern and western forms of learning are blended, as at the Hindu University at Benares, and if the heads of the principal native religions: Hinduism, Islamism, Buddhism, Jainism, and Sikhism, are recognised and subsidised by the State. The *Thathanabaing* or Buddhist Archbishop of Upper Burma was recognized and subsidized by the British Government in 1903. The measure was quite unprecedented in the annals of the Indian Empire, but the experiment has proved to be a pronounced success. As compared with Lower Burma, there is less crime in Upper Burma, the people are more amenable to authority and discipline, the disintegration of native society has been stayed, and the

* The students pay for their medicines and when they call in any other doctor for consultation they pay his fee also.

cooperative movement, which will be the salvation of the country, has made a greater and more rapid progress. In this connection, please see pages 300-301 of the *Asiatic Studies, first series,* by Sir Alfred Lyall, who recommends the supervision of a native Church by the State in India, as a matter of political expediency and a recognised duty of the State, rather than as an affair of doctrine or opinion. It is to be remembered that, in her present condition of civilisation, India cannot afford to have the State separated from the Church, as in France or the United States of America. Besides, it will be politically and educationally expedient to have the heads of religions in intimate relations with the State, because the educational machinery of the country is mainly controlled, guided, and influenced by them. It should be remembered also that, in the East generally, education is bound up with religion, which is the mainspring of ethics, and which brings so much needed solace and consolation to life. Above all, it should be remembered that one of the main causes of the present desolating and exterminating European war is the separation of religion from education, and the preponderance of science and mathematics over philosophy, history, and literature.

Mitra, Ram Charan.

In answering the questions I have confined myself to purely educational questions. But the object of the University should be to " train the mind, body and character :" the result " not a book but a man."

In Bengal, as in other parts of India, the majority of students read only for the sake of earning a livelihood—several of them have to prosecute their studies under great difficulties. To apply the rules of a residential university to them would be to deprive them of all means of education. For such students as well as for others whose primary object is to earn only a livelihood, a separate university should be established in a convenient place.

Neogi, Dr. P.

I have pointed out elsewhere that one of the principal defects of the present system is that it is entirely secular, and in no country such a system of purely secular education prevails. I would therefore suggest the following measures which aim at providing *religious education to different communities on their own faiths.* This principle I hope, will not interfere with the principle of religious neutrality which the Government and the University observe. It is to be noted that *theological teaching only* would be imparted and *no religious rites or rituals* of any kind will be performed in educational institutions.

(*a*) *The University should establish a separate faculty of theology* with boards of studies in Hindu theology, Muhammadan theology and Christian theology. They will prepare syllabuses of study.

(*b*) *Religious education is to be compulsory in all primary and secondary schools* and one or more teachers should be appointed for the purpose. In case students belonging to different religions read in the same school, *a religious teacher would be appointed to teach religion if 20 students belonging to that faith read in that school.* There will be no examination in theology in the matriculation standard but students shall have to produce a certificate that they have attended at least 60 per cent. of the lectures on religion delivered.

(*c*) No religious rites will be performed in the school, only teaching will be undertaken. Students, however, will be at liberty to observe religious rites in hostels or messes with the permission of the authorities.

(*d*) In colleges the same procedure will be adopted but religious education will be optional instead of compulsory.

I put forward my suggestions with the greatest reserve and would recommend that the principle of religious education should be accepted by the Government and the Senate before anything can be done. My idea is that a serious attempt in this direction should be made. *To impart religious education to students on the faiths they themselves profess is*

surely no violation of the principle of religious neutrality. My idea is that so far as Hindu religion is concerned a graduated system of religious and moral teaching may be propounded by a properly-constituted faculty of theology. For instance, in the primary schools, *Chānakya-slokas* and moral stories from the *Ramayan* and the *Mahabharat* may be taught. During the secondary standard the *Bhāgabat-Gita* and the lives and teachings of eminent teachers of Hinduism such as Chaitannya, Sankarāchārjya, Kabir and Rāmkrishna may be studied. To this the study of the Upanishads may be added in the colleges and in this way the students may be kept in touch with what is best in the Hindu religion. The teaching throughout should be through the medium of the vernaculars. Similarly the Koran and Muhammadan theology and the Bible and Christian theology may be read by Muhammadan and Christian students respectively.

PAYNE, The Hon'ble Mr. C. F.

I am sorry that I am not in a position to answer any of the questions exactly in the form in which they are asked. I should like, however, to take this opportunity to emphasise the very great need for adequate technical education of a practical nature in India.

The Calcutta Corporation are authorised, as one of their so-called secondary duties, to "promote primary and technical education" in Calcutta; but as a matter of fact very little has actually been done under this head, though the matter has during the last few years been the subject of much investigation and discussion between Government and the Corporation. I have not studied the question sufficiently to be able to make any suggestions as to the lines upon which technical education can best be conducted in India. The point which I particularly wish to press is the readiness of Indian young men now-a-days to undergo the practical training which is the necessary accompaniment of any useful form of technical education. It is frequently urged that technical education has not succeeded in India, because of the unwillingness of Indians to undergo this practical training, and probably past experience has given some ground for this belief. I am strongly of opinion, however,—and I know that a large number of the members of the Calcutta Corporation agree with me in this,—that at least in Calcutta and elsewhere in Bengal, there is a large number of young men who are only looking for the opportunity to fit themselves for some trade or profession in which practical training is required, and who would willingly undergo that training if it were available. The natural tendency of the young men of Bengal is undoubtedly towards a literary education, but of recent years they have had such bitter experience of the difficulty of obtaining remunerative employment without technical training of some kind, that no natural dislike of manual labour will now deter them from undergoing that training. I have seen a good deal of the practical work of Bengalis in the Engineering Department of the Calcutta Corporation, who have been trained at Sibpur; and, generally speaking, I find that they are by no means unready to "take off their coats" and tackle a job of work. Given adequate facilities for training in other trades and professions in which technical education is necessary, I do not think that there is any doubt that Indian young men would show aptitude in those directions as well. At present there are no opportunities open to them, and I am confident that it is this lack of opportunity rather than the disinclination to manual labour which stands in the way of the economic progress of Bengal.

In order to be effective, technical education in India must be conducted on a very extensive scale, and at first at all events, the theoretical side must be subordinated to the practical side of the teaching. It must, of course, be undertaken by Government, and it will not be sufficient for Government to provide the theoretical teaching and rely upon private firms to give the practical training in their workshops. Such private assistance is most valuable, but it will not be sufficient in India without large Government workshops managed in conjunction with technical institutes. If training of this kind is provided, there will be no lack of young men coming forward to avail themselves of it, provided that the growth of manufactures goes along with it, so that there is always employment for those who have undergone the training. Given these two essential requisites and also assuming that the cost of the course of training is not excessive, there need be no fear that the alleged inaptitude of Bengalis towards manual labour and practical business management will stand in the way of the success of the scheme.

Ramkrishna Mission, Dacca.

The Dacca Branch of the Ramkrishna Mission beg to make the following suggestions at a time when you have just finished gathering information and experience from all parts of India. The late Swami Vivekananda, as a result of his exhaustive study of the history of India from the time of the Vedas to the present age, and from the teaching of his great master Shre Ramkrishna Parmahansa, come to the conclusion that the progress of India whether social, moral or educational, must be based on the solid rock of religion in future as it was in the past. Anyone who has studied the life of an Indian carefully will see how deeply religion has penetrated into every little act of his daily life. The present system of education has kept this important consideration entirely in the background, and the consequence is the lack of strength in character, devotion and manliness in most of the men getting modern education. We do not blame all of our educated brothers, for many of them get the necessary training from their good parents and sources other than universities.

Under these circumstances, we humbly request you to be so good as to give due consideration to this fact in formulating a scheme for the improvement of our University. We further beg to suggest that, in our humble opinion, the object may be partially gained by introducing even into the present course a compulsory study of the lives and teachings of the great religious teachers in the world. The simple lives may be taught in primary and secondary schools, and the teachings and the philosophy in them may be studied in the advanced classes in colleges. Thus these great examples being always held up before the students they will be bound to assimilate even some of the teachings of these great masters.

TRIVEDI, RAMENDRA SUNDER.

I confess that I feel a degree of diffidence in submitting to the Commission my views on the questions that have been forwarded to me for expression of my opinion on them. Each of the questions is broad and comprehensive in its nature, and will require careful thought and mature judgment for an answer. A reasoned and carefully thought out reply may require a number of pages; a short categorical statement embodying an opinion either in the affirmative or in the negative will be almost useless. The questions cover a wide field of investigation and open up important aspects of fundamental principles and their applicability to the present conditions and circumstances of Indian education. What is of fundamental importance as a principle conforming to a definite ideal, aim or object, may not be easy of application. Every institution has a history behind it and it will not do to judge of the merits of the institution apart from the accidents and circumstances that have given it its present shape. No argument based on principles alone which may suggest revolutionary changes in structure and constitution without reference to the determining factors of environment past or present, will have any value for practical reformers. The University of Calcutta is altogether a foreign plant imported into this country, belonging to a type that flourished in foreign soil. The importation was an urgent necessity of the time, suddenly created by the abrupt introduction of new conditions of life with a new order of political situation; the founders of the new educational system had not the time to study the ideals and methods that were indigenous: the new system was introduced in entire ignorance and almost in complete defiance of the existing social order regulating the everyday life of an ancient people. It was a temporary device necessitated by a sudden demand and a sudden emergency. The framers of the device had to plan out a machinery, but had not the opportunity to think out whether it would organically blend with the life, spiritual and secular, of the people for whose benefit it was intended.

The University however has not failed as an institution and as a machinery. It has done admirably the work that it was primarily intended to do. It has admirably served the purpose for which it was primarily intended. It has given the State a body of faithful and able servants, that have done and have been doing their duty in the new political

TRIVEDI, RAMENDRA SUNDER—*contd.*

situation created by British rule; it has produced a body of cultured citizens who are wielding their legitimate influence on civic life under the conditions introduced by close contact with the West. What is more valuable still, it has broadened the very base of life of an oriental people hitherto accustomed to move along the narrow lines and ways of their own in the seclusion imposed upon them by their own history and their geography. Western thought and Western culture brought to us through the universities have widened our field of vision, have placed before us new duties, have created new aspirations, and to-day the land is astir with the promptings of a new life, struggling to participate in the eternal conflict of life in the world; striving to bring forth a type of Indian humanity which, broadly and securely based on the foundations of its own special culture, will assert itself in the presence of the manhood of the world.

A celebrated French chemist began his well-known work on the history of chemistry with the words "Chemistry is a French science." Chemistry, at all events, has outgrown that stage of development in which any particular people might claim it as its own. True science, or *Vidya*, as we call it in India, is not a commodity to the use of which any particular people can lay claim as a monopoly, whatever be that people's share in its manufacture. Science, with its intrinsic worth and its practical usefulness, is of universal interest and cannot, in its very nature, be the exclusive possession of any race or people. Knowledge, whether Eastern or Western in its origin and development, constitutes the spiritual treasure of all humanity; but varied may be the methods in its pursuit. Each race and each people may be allowed to have its own way in the pursuit, the acquirement, and the advancement of knowledge, in accordance with its special instincts, special aptitudes, and special characteristics. Knowledge of the Western sciences cannot be withheld from an Eastern people as something alien to them; but an Eastern people may still be allowed its possession by methods and means best suited to their traditions and their needs.

There are men more competent than myself who will give practical and suggestive hints in reply to the questions put to them by the Commission, pointing out the ways to reform of the University in the existing circumstances of the country. I, on my part, may more profitably confine myself to a brief statement of the aims and ideals of high education as understood and believed in India, and of the contrast in these respects between the India that has come down from the past, and the India that has come newly into being under influences from without. In speaking of India, I mean Hindu India, for of Muhammadan India which lies alongside of Hindu India I do not feel myself competent to speak, though I do not think there is any real conflict in essential points between the two so far as educational matters are concerned.

Very recently there was a movement here for the establishment of an agency and of institutions for the purpose of imparting high education "on national lines" and "under national control", free from the control of Government and acting alongside, but independently, of the existing universities. The movement has not so far been successful, but it engaged the serious attention of some of the most prominent leaders of the people in the province. The attempt of Government to bring the existing universities under more effective official control by the passing of the new Universities Act had the effect of evoking discontent, and almost a spirit of revolt. The spirit has not yet died out. The foundation of the Hindu University of Benares, though under Government auspices and on the strength of a Government charter, was a measure taken up by Government in satisfaction of a popular demand. The very successful Bolpur Institute of Sir Rabindranath Tagore and the still more recent Research Institute of Sir J. C. Bose may be regarded as tangible instances of materialisation of the same spirit that is working in the country and among a people newly awakened to a sense of racial self-consciousness, and it will be unwise not to take cognisance of this new spirit in any serious attempt at reform of the educational institutions and agencies under the direct control of Government. It is not practicable, neither is it desirable, to try to build anew on entirely new foundations; it is doubtful if any revolutionary changes in aims and methods will succeed even if attempted. But the time has arrived for reconsideration of the whole question of education from a new point of view. Two sets of ideals, with corresponding methods of their realisation—a set of ideals and methods indigenous to the soil and a second set imported from abroad—should be placed side by side and a comparative

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study be made of them in their relation to the existing conditions and exigencies of the present situation. The points of contrast must be carefully noted and carefully studied. The distinguished educationists to whom the work of reform has been entrusted may thus derive some help in thinking out a feasible scheme of reforms which will place our educational methods on lines more in accord with the people's needs and the people's aspirations and in better harmony with the people's cherished ideals and traditions.

India, then, I take to be the seat of a special type of culture, which has developed or decayed in adapting itself to an everchanging environment, in compliance with the laws of historic growth. What is *Vidya* (knowledge or learning in the broadest sense) is, in its peculiarly Indian aspect, an expression of that special type of culture with which the name and fame of India is so closely associated. The systems and methods of education that have prevailed in India have had as their object the preservation, the advancement, and the transmission of its *Vidya*. There have been very many theories about the aim and object of education and they have had their applications; but India has had a theory of her own and Indian educational methods, that is, those that are of indigenous origin and growth, have been based, for good or for evil, on that theory. The object of education has been defined elsewhere to be the production of the complete man, the man successful in holding his own in the struggle for life without hindering the legitimate growth of life in others; the manufacture of the perfect citizen who, with enough freedom for self-development, will still be a willing and efficient factor in the corporate life of the community or the State. A human being is a person with an individuality of his own; he is, further, a citizen, a member of the State, in which his individuality has often to be merged. The aim of education is to co-ordinate and reconcile the two aspects of his personality, to leave him freedom for self-development in compliance with, and often in subordination to, the requirements of his citizenship. The aim is success in life, consistent with the strength and safety of the State.

The Indian theory of education was laid down in distinct and specific terms in the Indian Scriptures; and this theory has ruled Indian life for over thirty centuries at the least, and it requires definitely to be stated.

It will not be possible for me here to substantiate my statement if challenged by any with the necessary evidence or with necessary references to authorities and texts in support of it. But I have carefully sifted the evidence afforded by the material at disposal and will use cautious and carefully worded language. The Indian theory of education may be enunciated as follows:—

Every man is born with certain moral obligations—*Rinas* or debts as they are technically called:—

(*a*) Debts to the Higher Powers that govern his being in its inscrutable ways.
(*b*) Debts to his ancestors, including the fathers of the race.
(*c*) Debts to his neighbours and fellowmen.
(*d*) Debts to all sentient creatures that in any way minister to his life's needs.
(*e*) And above all, debts to the *Rishis*, or the ancient founders of the particular type of culture to which his life must conform. Real success in life—true self-realisation—consists in the supreme satisfaction that a man derives from paying off all his debts and leaving the world with the clean conscience of a free man, a man who has freed himself from all obligations to the entire environment that gave him his being and moulded his life.

The question of success, in the popular worldly sense being the end and aim of life, here cannot arise. Every debt has a corresponding duty to be discharged, and the discharge of that duty, and not success, is the goal of existence. The best education is that which qualifies a man to do his duty. The debt to the *Rishis* is given, with absolute unanimity, the first and foremost place in the list of life's obligations, and the way to pay off the debt is by the cultivation of *Vidya*—the pursuit of knowledge for its own sake. The ceremonial performance of duty is called a *Yajna*, or sacrifice, and the pursuit of knowledge is the most binding of all *Yajnas*.

Vidya is the heritage that has come down from the *Rishis*, the founders of racial culture; it is the treasure that has been bequeathed to all coming generations to be kept and preserved. It has to be passed on to all succeeding generations as a sacred legacy, to be kept intact, pure, and unsullied. The debt that a man owes to the *Rishis* is paid off if

he succeeds in maintaining the purity and the integrity of the *Vidya* handed down to him. To pay off the debt requires an act of sacrifice, a *Yajna*, which as a duty is incumbent on every man having a place in the community. It is a moral obligation, and there is no shirking it.

Vidya gives a man the second birth that places individual life in proper relation to communal life. A man that has not formally been declared by his teacher as having gone through the necessary course of discipline in the pursuit of *Vidya* under him is, according to strict theory, an unregenerate man, a man who cannot be admitted to full social rights and privileges, a man who cannot be permitted even to marry and leave lawful progeny.

Education was thus made compulsory for every free-born Indian, *even for the tiller of the soil and the tender of the cattle.* It was compulsory because an uneducated man was practically debarred from full social status. It involved a corresponding duty on the part of the community to devise an organisation for imparting education to every member of it; a living, self-acting organisation that would endure independently of any driving mechanism anywhere, constantly supplying its motive power and consciously regulating its work. The problem was serious, but old India solved the problem in a way that hardly finds a parallel elsewhere. The organisation that was devised has stood the test of time, and has lived and endured through thirty troublous centuries and, though moribund and decaying at present, contains the germs of life even to-day.

I refer to the indigenous system of high education still current in the country, which may be called the *tol* system. A relic and a survival, it still imparts high education of a certain type and standard to tens of thousands of eager students who still seek the shelter of the numerous small establishments that lie scattered over the whole country. It has kept alive the ancient Learning, or *Vidya*, of India and, what is more valued still, it has kept alive an ideal in almost its pristine purity, an ideal that India may claim as exclusively her own.

Speaking for myself I am indebted for what is the most valued possession of my life to the benefits of Western education received under the auspices of my own University. The old learning, as it is imparted in our *tols*, with its narrowness, its one-sidedness, its want of breadth and comprehensiveness, has no very particular charm for me; but I cannot but deplore the falling off, the deterioration, of the Ideal. Western education, through the agency of the universities, has renovated our life, has given it vigour, has given it expansiveness; it has raised high hopes and aspirations. We have been gainers on the whole perhaps; but I cannot be blind to, and cannot but contemplate without sadness, the very many contrasts between the old and the new that have followed the falling off of the ideal. I may be permitted to dilate briefly on some of these contrasts.

According to Indian theory, *Vidya* is an end by itself; knowledge must be pursued for its own sake, quite irrespective of any prospect of worldly success. Pursuit of knowledge is a duty; it is *Dharma;* it is a *Yajna*, or sacrifice, necessary for discharging a moral obligation.

To the current generation of students who seek Western education knowledge is valued because knowledge is power, because knowledge brings success in life. The object of education may be the production of a perfect or complete man; but perfect or complete manhood is almost synonymous with successful manhood. Thus, success in life often success in a vulgar sense, becomes the object of education. To most Indians Western education is valued because it brings wealth and influence and all that accompanies them. To the mediocre student education has become necessary because it is the only means that can be relied upon for securing a decent living.

The education that is imparted in our *tols* cannot, in its very nature, be associated with worldly success and worldly gain; as a matter of fact, it is never a way to prosperity. The Pandit may be held in high veneration by the public for his learning and attainments; he belongs necessarily to the highest rank in society in order of respectability and has certain social privileges accorded him; but he can never aspire to be a rich man. A Pandit addicted to the luxuries of worldly life would be regarded as a monstrosity even at the present day.

According to theory, education is the birthright of every free man. A man must be educated in order to be admitted to full communal status, full civic rights and

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privileges. It follows of necessity that the door to knowledge must be open to all. Poverty should be no bar to acquisition of learning.

Times have changed and circumstances have altered. Pursuit of *Vidya* is no longer considered to be the duty of every man; literacy even is no longer a condition of admission to full social status. But the old spirit still lives; the students that still seek admission to *tols* are mostly very poor; their number is still considerable; the number will not compare unfavourably with the number of students attracted to the universities; but instances are rare, even under the present adverse circumstances of an eager and earnest student, however poor, being unable to secure food and shelter under the hospitable roof of a Pandit of the old school.

Western education under modern conditions, on the other hand, is costly; in most cases, it is an expensive luxury which only the favoured few can afford. Good students may be helped with scholarships and stipends; charity may come to the assistance of the lucky few. But high university education will remain barred to all but a miserable fraction of the population desirous of securing its benefits.

Education, being, in theory, compulsory for all, has to be a free gift. In our *tols* it is actually a free gift from the teacher to the taught. It is a sin for a Pandit to accept any regular payment in silver from his pupil. He is permitted to receive personal services, and even menial services, from the pupil, but he cannot expect any pecuniary reward for his labours. On the contrary, he must be prepared to feed his pupils and find shelter for them under his own roof and must not expect any payment of fee for the same.

Under the system introduced under western influences pupils have to pay for the benefits that they receive. They have to pay for their tuition, for their lodging and boarding arrangements. This makes education expensive and prohibitive to the major part of the population. Besides, it introduces new factors in the mutual relations between the teacher and the taught that are quite foreign to native and genuine Indian instinct.

The university student knows that he pays for his education, and that his education has a solid marketable value—the learning he acquires is potential wealth and power. He knows, further, that his teacher works for him because he is paid for his work. Teaching has become a profession, and sometimes a paying profession too. Education has been reduced to a transaction subject to the economic laws of supply and demand. A new relation between the teacher and the taught has been introduced which is entirely repugnant to Indian sentiment and Indian habits of thought.

The bond tying a teacher to his pupil should, according to Indian notions, be a purely personal attachment, a tie of sympathy and trust and co-operation. *Vidya* is a free and voluntary gift from the teacher for which he cannot expect any remuneration in exchange. But the gift has to be received by the student with full faith in his teacher and in the spirit of the devotee. Both parties are free agents in the transaction. The teacher has the freedom to choose his pupils and the student is absolutely free in the choice of his teacher. There is nothing of the nature of a contract restricting the freedom of either party and regulating their mutual relation. There is the unwritten law that serves the purpose in fixing the relation. The attachment, the devotion, of an Indian student to his *Guru*, in accordance with the traditional system, is proverbial.

It is a matter for regret that the relation has completely changed under modern conditions. The bond is no longer personal, having its strength in moral obligations pure and simple: many other elements have entered into its composition. The teacher here is a paid employé working under a contract; the pupil demands from him assistance of a kind for which he has paid him. Very often the pupil is an unwilling agent who has been placed by his legal or natural guardian under a forced course of discipline, with its rigorous restrictions and regulations, under which he frets; and his inborn moral nature revolts at times against the system of restrictions imposed upon him against his choice. The relation between the teacher and the taught is apt to be bitter at times, and the bitterness leads occasionally to unfortunate breaches of discipline. The consequences are very often disagreeable. They are particularly regrettable when the teacher happens to be a European. The Indian student is naturally touchy in his relation to his European teachers; the European teacher is apt to commit errors of judgment in his inability to enter into the feelings of his students. Revolt against the authority of a teacher is a thing inconceivable to old India; it is quite unknown under the *tol* system.

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It is an importation under foreign influences and foreign ideals, and the artificial conditions imposed from without.

According to Indian theory, a man without education, a man who cannot produce a formal declaration from his teacher as having gone through the appointed course of discipline, or *Brahmacharya*, in pursuit of *Vidya*, is denied full participation in the duties pertaining to civic life. Accordingly, it becomes the duty of the community to provide and maintain an agency for the work of educating every member of it. In India the problem was solved by the institution of a permanent hereditary class of teachers, the much maligned class of Brahmans. The institution had its defects and demerits as it had to grant special privileges to a hereditary caste, but it was the practical solution of the problem that India was required to face under the circumstances conditioned by its special theory of education. While the duty of every member of the community was to learn, the duty of every man belonging to this class was to teach, as well as to learn, to receive *Vidya* (*adhyayana*), as well as to give it (*adhyapana*). He was the trusted custodian of traditional learning; and his duty consisted in keeping and preserving, as well as in advancing and transmitting the treasure of ancient lore that was trusted to his keeping. He had to impart it to his chosen pupils freely, and it was the duty of the community to provide him the means of decent living. The life of a teacher under such conditions cannot be a life of affluence or luxury; and, ordinarily, it had to be a life of large sacrifice. The teacher had to live a severely austere life, eschewing all luxuries. His wants were few, and the community had to minister to those few wants. The motto of his life was to maintain a standard of plain living and high thinking; society found pleasure in granting him some special privileges; he belonged to the rank held highest in social estimation; he had not to bend his knee before the mightiest in the land; he had complete independence in the performance of the duties of his peaceful vocation. The State, as a rule, did not interfere with his work; he had full freedom of teaching and preaching; he had the support of the community behind him, and hardly needed any support from the State. Kings, princes, and rich men might help and honour him with gifts and presents, with endowments in land or money, in accordance with their personal predilections; but the State, as such, did not concern itself much about meddling with his affairs. The class of teachers had some legal privileges and exemptions; and the State was the guardian of the legal rights of them, as of any other class of citizens under its protection.

The whole system of Western civilisation, with its Greco-Roman foundation, hangs on the hinge connecting the citizen to the State. The whole trend of the system is to produce a good citizen, a citizen whose life will be subservient primarily to the needs of the State. Any degree of personal liberty that he may be permitted to enjoy is allowed by sufferance; the State keeps to itself the right to withdraw the liberty that is temporarily granted to a citizen, to a class of citizens, or to a corporation the moment that the existence of the State is imperilled.

In the West all self-governing institutions, including the universities, that were of spontaneous origin and growth have had their liberties defined by charters granted by heads of the State and even those liberties have frequently been interfered with. Modern universities have their constitutions and powers strictly defined by statute that may any moment be repealed or modified at the bidding of the State. Modern Indian universities are institutions of this class; moreover, as machines, they owe their driving and motive power to the State. The affairs of the State here are under the full control of a body of foreigners who, however well-intentioned and liberal-minded, have to act in almost entire ignorance of the modes of life and the habits of thought of an alien people. They are out of touch, and out of sympathy, with the deepest springs of life—the innate instincts and most cherished ideals of the people under their care and protection. The universities and educational establishments here in modern India are all machines that require constant care and constant control of an ever-watchful Government, and are in constant need of mending and repairing. As a necessary consequence they cannot be allowed the freedom of spontaneous development along the lines most suited to the needs of the people, lines most in accordance with the needs of organic life. The life and the work of the teacher and the taught have to be fettered by mechanical regulations, by chains of restrictions forged at the official smithy. The restrictions are framed with

an eye towards expediency and the efficiency of the State in the performance of its own work. The university degree is primarily a test of fitness in the service of the State and the whole affair is made subservient to an efficient application of that test. The test applied is an endless chain of examinations conducted with the sole object of eliminating the unfit. We have a series of sifting operations for the selection of useful and competent servants for the State and desirable citizens for conducting public life along proper and decent channels. The University affords a field for competition to candidates in want of a recognised place in public life; and the main business of the University reduces itself to inventing the most effective method of eliminating as many of the unfit as is practicable under the circumstances. The end of university education—the advancement of learning, which my own University has accepted for its motto—has receded to a distance and is half-forgotten in the striving for the maintenance of a suitable standard of test of fitness among the clamorous claimants for its degree.

Any talk of freedom becomes idle and irrelevant, and almost impertinent, under such circumstances. The *tol* system, which is a relic, a decayed relic of the past, may still boast of freedom, of almost absolute freedom. It enjoyed absolute freedom from State interference till lately when Government instituted title examinations for its students and forced its protection upon them. The teacher has the freedom still to select his pupils, and to select the course of study. He has full freedom to interpret his texts; the student is free in the choice of his teachers and in the choice of his subject of study. His loyalty to his teacher is spontaneous and stands in need of no rules of discipline. No hard-and fast rules for compelling and regulating attendance are needed for him. No fines, no penalties, need be imposed upon him for misbehaviour; no black-books need be kept for recording his conduct. No formal examination, preliminary, intermediate, or final, conducted along mechanical lines, is necessary for testing his fitness for life. He is let off by his teacher after he has gone through his course, and the public is expected to be the final judge of his fitness. His education hardly makes him fit for the struggle for life; the branches of learning that form the subjects of his study are perhaps barren and fruitless, and narrow according to modern standards. But his course of training moulds his character; his learning gives a position of honour and esteem in society. Above all, he represents an ideal—an ideal associated with a high standard of culture, a course of self-imposed discipline and a series of voluntary self-denial and sacrifice. Western education has given us much; we have been great gainers; but there has been a cost, a cost as regards culture, a cost as regards respect for self and reverence for others, a cost as regards the nobility and dignity of life.

WOODROFFE, The Hon'ble Sir JOHN.

Not being an educational expert I will not attempt to deal with the technical details involved in the questions submitted to me. I wish only to say a few words on a radical matter, namely, the general attitude we should adopt as regards Indian education. We cannot separate the question of university education from that of education in general. The undergraduate has already been made or spoiled in the family, school, or college. Nor, if we pursue the subject to the end, can we avoid an enquiry into political, religious, and cultural questions in general. The fundamental fact is that a Government alien in race, habits, thought, feelings, religion, and general culture controls the education (more and more strictly in recent years) and essays to teach the people of this country. It has been well said that probably in the whole world there are not two more dissimilar persons than an Englishman and a Hindu. The position is unnatural; and injurious to the true interests of this country. This control may be, and I think has been, directed by self-regarding political motives. But, even if the point of view be one which primarily regards the interests of the Indian people, there is still place for conflicting theories and practice. There are some (the foremost of whom may be called missionaries of race) who, sincerely believing in the superiority of Western civilisation, think that it will be for the benefit of India to impose it on the East. The product of this system is Macaulay's "Coloured Englishman". The drift of education has been in this direction. As my friend Mr. Havell (formerly principal of the Calcutta School of Art) has rightly said, the fault of the Anglo-Indian

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educational system is that, instead of harmonising with, and supplementing, national culture, it is antagonistic to, and destructive, of it. Sir George Birdwood says of the system that it "has destroyed in Indians the love of their own literature, the quickening soul of a people, and their delight in their own arts and, worst of all, their repose in their own traditional and national religion, has disgusted them with their own homes, their parents, and their sisters, their very wives, and brought discontent into every family so far as its baneful influences have reached."

Since writing the above I have read a speech recently addressed by Sir Subrahmania Aiyar to the law students at Madras in which pointing out that it seems to be thought that the aim and end of British tutelage in India is to Westernise its children, says that the fulfilment of that aim must, in the very nature of things, tend to sap all true life and initiative natural to the people as a distinctly Eastern race destined to evolve on lines of its own. He also refers to a recent issue of the English journal—the *Statist*—to the effect that the object of the present rule seems intended to metamorphose the Indian into "a quasi-English breed." Such a breed, I may add, is likely to lead to half-thinking, inefficient action, and worse.

As nothing is wholly evil I personally believe that some benefits have been gained through the education given but, looking upon the matter as a whole, I concur in thinking that this education has had baneful effects. What else can be expected from a position so unnatural? Wrong education is the cause of physical and mental strain and sapping of moral strength. It is productive of instability leading, in the case of some, to violence, in the case of others to a paralysing inner conflict or a sense of intolerable oppression and, in a large number of ordinary and inferior natures, to imitation, automatism, and subservience. The influences working on the student have been deracialising (if I may use the word to denote destruction of racial characteristics), devitalising, and deforming.

If they have not worked their full evil it is due to the resistance of the racial spirit defending itself against the assaults, increasing in number and strength, made upon it in recent years.

Personally, I should like to see the education of the Indian people in the hands of Indians themselves, without any interference from Government as at present constituted. But, if Government must control education, the principle on which it now proceeds should be changed.

Let us recognise the strength, persistence, and value of the racial characteristics of the Indian people who have survived in a way and to a degree which is not seen in the case of any other country in the world. It is not necessary to enquire into the question of the respective superiority of the civilisation of East and West. It is sufficient to hold that Indian civilisation is the best for the people whose forefathers have evolved it. Let us stop all attempts, direct or indirect, whether political or religious, to impose our beliefs and practices on a people to whom they are foreign. Let us admit and give effect to the claim of the true Indian patriot that his language, history, literature, art, philosophy, religion, general culture, and ideals should be given the primary place in the prescribed courses of study.

If education be to educe, what can be educed from the Indian mind and character but inherited racial impressions? Is it education to neglect or suppress these and to cram it with foreign stuff? This observation does not exclude any form of knowledge—Western or otherwise. Knowledge is knowledge whether it comes from East or West. An Indian student is none the less true to his type because his own cultural inheritance has been enriched by what of worth the West can give. It is directed to the positive cultivation of Indian, culture and, in other matters, the adoption of an attitude favourable to it. The 17th question asks whether the conditions under which students live undermine traditional morality. "Conditions" (if I understand the question rightly) indicates that the question has in view only some superficial features of the student's life. Where morality (I use the term in its general sense) has been undermined it is due in primary degree to the alleged "neutrality" of the State as regards religion, its teaching, which ignores religion, the past attacks on the Indian religions, Hindu and Musalman, Westernising influences, and the general atmosphere produced by these and other causes.

How can traditional morality be preserved when the whole course of education is to gnore *it* and thus leave it the easier prey of sectarian attack and secular scepticism? How

WOODROFFE, The Hon'ble Sir JOHN—*contd.*

can the Indian student present an effective attitude to life if the source of his vitality is neglected or suppressed and his movements are cramped by foreign vestures? It is true that an increasing national consciousness has been, to some extent, remedying the evils of an English education on English principles by English teachers but the necessity to remove the causes of these evils still remains.

It follows from the above views that, in my opinion, education should be such as a true, and not a denationalised, Indian would desire to see given and would himself, if an educator, give. Such an education can only be properly given by an Indian, able in his subject and inspired by great ideals, who has not been denationalised under the English system of education which has hitherto prevailed. The class here excepted may be less competent to teach than the English original of which they are a copy. All intriguers for posts of teachers and professors should be rigorously suppressed. As a result of this it follows that distinctions in the Educational Service should be abolished and Indians should be employed in every case except those in which the expert knowledge of an European (and not necessarily an Englishman) justifies his appointment. The educational curriculum should give Indian culture and the Indian standpoint the primary place. Art should be recognised, and not, as it is now, ignored, by the University. India being an agricultural country there should be courses of agriculture, professorships, and travelling agricultural lectureships. Law is at present too much encouraged. All the public opinion with which I am acquainted is against the further multiplication of lawyers. Teaching should be in the vernacular as much as possible. Students are greatly strained by having to learn in a foreign tongue. The University should be as free of Government interference and have as much independence of action as is possible. There should certainly be a large degree of freedom of teaching and study. In short, I would claim for the University every freedom to follow those ideals which the past history of India and its past and present Indian culture present to it.

XIV. SECONDARY SCHOOLS, TEACHING AND EXAMINATION OF.

General Memoranda.

CHAKRAVARTI, CHINTAHARAN.

The senior teachers of secondary schools should be elected as members of the senate to represent the interests of those schools.

The matriculation examination should be conducted chiefly by the teachers of secondary schools.

DUNN, S. G.

In answering the questions put by the Commission I have been deliberately brief because I believe that my opinions on many of the subjects under review are already before the members of the Commission in various forms, and it would be a waste of their time to repeat them. I may, however, refer here to a condition which appears to me essential, *viz.*, the improvement of the schools, as preliminary to any reform of the Universities. No attempt to improve university education can possibly succeed until better material is sent up from the schools.

HEATON, B.

I must apologise for coming forward as the reader of the first paper at the Calcutta centre of the Indian Educational Service Association and say merely in explanation that, the Civil Engineering College vacation being now on, I have at present, perhaps, more leisure than other members, and I feel that we, at headquarters, cannot afford to let the activity of the Dacca and Patna centres put us to shame.

My reason for selecting the subject of *age at the matriculation* is that this is, perhaps, the question of most moment at present, and it is, therefore, advisable that we should exchange ideas on this matter. It is certainly one that most intimately concerns those of us engaged in collegiate education. For, if the schools supply us with poor material, we are very much handicapped and, when the public see that the output of the colleges is poor also, they will not be patient with us if we throw the fault upon the schools.

To make this point clearer:—At the Engineering College and technical schools we are, perhaps, more closely affected by inferior school education than other colleges. We, at Sibpur, cannot attempt to make up any deficiencies in general education that our students may have. All our time must necessarily be spent upon professional subjects and in teaching the more technical aspects of mathematics and science. We are not consulted about the matriculation course or standard and must, perforce, accept what you gentlemen of the arts and science faculties send us, for you are looked upon as the controllers of the matriculation.

At the reorganisation of the Calcutta University your predecessors treated us badly in abolishing drawing from the syllabus of high schools, and in concentrating the educational efforts still further upon developing the brain and memory to the utter neglect of the hand and eye.

The result is that our efforts at the technical institutions are very seriously hampered for we have to devote a large amount of time from our already short courses to making up our students' deficiency in drawing. This loss of time must, naturally, result in either a lowering of our professional standards or in a larger mortality amongst the candidates at our professional examinations. To show how very seriously we are handicapped by the posent absurdly low standard of the matriculation or, perhaps I may say the absolutely inferior standard of our schools and their engrossment by the matriculation subjects to the exclusion of all others of equal importance in a liberal education, we need only to

HEATON, B.—*contd.*

compare the educational equipment of a lad joining an engineering college in England with that of an Indian student in Bengal.

In England there are modern sides at all public schools and, in many cases, special engineering sides also. Lads who intend to follow engineering as a profession are able to specialise in mathematics, science, drawing, carpentry, and, in some cases, surveying and metal-working, before admission to engineering colleges. In Bengal, except in the B. classes, where the numbers are exceedingly small, no such opportunities are offered. What is the reason ? The chief reason for this absence of special courses is the absurdly low standard of age set up for the matriculation examination. If this were postponed for two years then the conditions would approximate to those of English, European, and American universities and then we would be able, in the two higher years, to develop proper modern sides to our schools and would be able to send out to our colleges lads properly equipped for a collegiate education.

We could even now do something towards improving matters, so far as professional colleges are concerned, by restoring drawing to the high schools and making it a compulsory subject for all candidates wishing to join science, engineering, and medical colleges. But we cannot hope to be able to establish our B.A.'s, M.A.'s, etc., in the eyes of the educated world on an equal footing with those of Western universities until we settle this school question upon reasonable lines. How can this be done ? This is a problem primarily for our arts and science faculties. Should we add two years to the school courses ? Or should we create junior colleges confined to remodelled I.A. and I.Sc. teaching to prepare lads for admission to our university colleges at which all B.A., B.Sc., M.A., and M.Sc. teaching should be centralised ? These are questions upon which the Indian Educational Service must form definite opinions for, if we are to have any influence in education, we must be prepared to speak out resolutely and to take a lead.

As a small contribution to this discussion I have been at pains to investigate some aspects of the present matriculation examination so far as the age question is concerned.

We may compare the relative ages of successful candidates at the entrance examination of 1904 and the matriculation of 1914—both normal years. In 1904 we were not thinking of reorganising, and in 1914 we have settled down after reorganisation. In 1904 about 700 candidates below sixteen passed the entrance, including some half a dozen below twelve years of age. The greatest number of successful candidates was between seventeen and eighteen years of age.

In 1914 we find, as we would expect (owing to the holding back of the more brilliant lads under sixteen), that the greater numbers are between sixteen and seventeen years of age and it appears that the standard of the examination has been made more suitable for lads of that age than for those older. This, I think, points to the fact so often expressed by inspectors and headmasters that the matriculation examination is of an easier standard than the old entrance.

As a further proof of the lowering of the standard of education imparted at the schools I may mention that, when making enquiries as to the reasons for the decline in numbers attending technical schools and B classes in Bengal, the very first argument put forward by a headmaster is the easier matriculation standard and, therefore, the correspondingly stiffer standard of our professional examination which we have tried to maintain at an even level. That we find it more difficult to bring matriculates up to our professional standards than the old entrance is due entirely to the omission of drawing. Without this subject our lads cannot understand engineering text-books or even black-board sketching properly and so all our technical subjects suffer. The percentage of passes at the Civil Engineering College, taking all the examinations of our apprentice department into account, has fallen from 79·8 per cent in the case of old entrance candidates (previous to the introduction of the matriculation) to 65 per cent since then, while the relative figure of our B final lads is 3 per cent higher.

If we examine the numbers that pass at various ages in the first, second, and third divisions of the matriculation examination we see that the matriculation tests are more suitable for lads of sixteen to seventeen than for older lads.

The present examination standard based on the matriculation course must tend to flood our college with young and immature lads. Over 80 per cent of the candidates

between 16 and 16 3 pass the examination; at 24 years of age the figure drops to below 40 per cent.

It would be very interesting to compile similar statistics or figures for the intermediate and bachelor standards, but this cannot be done without very great trouble for there is no record of the ages of the candidates. Information compiled from the Civil Engineering College records shows that a candidate for an engineering college wastes time by going up for his B. Sc. after taking the I.Sc. and also that I. Sc. second division lads are extraordinarily poor compared to those that pass in the first division.

My last point has no educational value; it merely is that it is more fashionable in Bengal for male babies to be born in the first quarter of the year than in any other.

Out of 6,700 successful candidates at the 1914 matriculation over 3,000 were born in January, February, or March.

MACKENZIE, A. H.

Proposals for reform in education sooner or later resolve themselves into the question :—Where is the money to come from? As schemes of reform in university education will be largely ineffective unless there is considerable improvement in secondary education a consideration of the means by which secondary schools can be financed may perhaps not be considered irrelevant to the subject of the Commission's enquiry.

There are at present three main sources from which secondary schools are financed, *viz.* grants from provincial funds, fees, and private endowments. The most pressing educational need of the day is a rapid and wide expansion of primary education; as secondary education now has (if we compare the figures for India with those of Western countries) more than its fair share of provincial funds, the additional aid that can be expected from this source will not go far towards effecting improvement. Fees, when we consider the class from which the majority of pupils is drawn, are now reasonably high in Government schools. An increase is possible in aided schools, but not to the extent that will provide anything approaching the additional funds required to put these schools on a sound financial footing. Private liberality has already done much for secondary education but, in the future, the new universities will make such great demands upon it that little will be left for secondary education. The only possible means of raising the necessary funds is local taxation.

A local rate for secondary education will be tolerated only if the people who pay it have a voice in controlling the expenditure and will, consequently, involve radical changes in the system of educational administration.

I would suggest that in each division there should be a Secondary Education Committee consisting of non-officials. At the disposal of this committee should be placed lump grants from provincial funds for pay of teachers, buildings, equipment, playgrounds, training, etc., according to budgets prepared by the committee and sanctioned by Government. These grants should be distributed by the committee to schools in the division. Schools should be eligible for grants only if reported by the Education Department to be efficient, and if in receipt of adequate support from local rates raised for secondary education by the municipality or district board. Private schools should remain, as at present, under the management of their own committees, but the administration of Government schools (with the exception of a few schools to be maintained and administered by the Education Department as 'model' schools) should be transferred from the department to the committee. The committee should administer also any schools subsequently required by municipalities and district boards in order to make provision for secondary education in particular localities.

There are, undoubtedly, dangers in the way of giving a body of laymen administrative control over education. One of these is that, when the committee is large, cleavages occur and serious interchange of thought is difficult. Thus, Dutton and Snedden in their *Educational Administration in the United States of America* say:—"There is no case on record where a very large board has not ultimately degenerated into a debating society of very commonplace nature, and has been a serious handicap to educational progress". Experience, therefore, shows that the number of members on an education committee should

be kept low, and it may be noted that in America the numbers have been considerably reduced ; in Brooklyn from 116 to 24 and, subsequently, to 5, in Rochester from 16 to 5, and in Baltimore from 29 to 9.

Another danger is the confusion which is apt to arise in the minds of a committee of laymen as to the functions which they can efficiently discharge. The layman can legislate for education ; he can, for example, say where schools are required, and of what size, on what principles grants should be made, what salaries should be paid, what provision should be made for the training of teachers ; but the details of school administration require expert knowledge. This principle is recognised in England where each important committee has its director of education, and in America where the administration of schools is in the hands of superintendents responsible to the boards. Experience in these countries warns us that, if schools are to be handed over to the administrative control of a committee of laymen, it will be necessary to require the committee to employ an executive officer and to give the latter large powers of recommendation and action.

MAITRA, HERAMBACHANDRA.

While we are agitating for the adoption of self-government as the guiding principle of British rule in India efforts are being made in certain quarters to deprive us of the moderate measure of self-government we now enjoy in a very important sphere of work —the control of secondary education. It would be a great pity if schemes of Imperial magnitude were to divert public attention from this subject, which involves questions vitally affecting our progress and well-being. And what makes the question an urgent one at the present moment is that an earnest effort is sure to be made to press the official view, which is set forth in the Report of the Bengal District Administration Committee (1913-14), upon the Calcutta University Commission. The proposals of the committee are of a most retrograde character, and are entirely antagonistic to the spirit of the magnanimous pronouncements of the Secretary of State and the Viceroy on the aims to be pursued by England in the government of this country.

The committee consisted of five members of the Civil Service, three of them from provinces which are far behind Bengal in respect of educational and general progress. The line of action advocated by a committee so constituted—a committee without a single educationist or non-official on it—necessarily reflects the views of the Civil Service—the bureaucracy—the failure of which to recognise the growing strength of public opinion and to sympathise with the aspirations of the people has led to grave blunders in the past. And the acceptance of its recommendations on secondary education would be another grave blunder. In the chapter of the report dealing with the subject there is no trace of the slightest attempt on the part of the committee to look at things from the people's point of view and to secure even the appearance of a compromise between a desire to augment the powers of Government officials and sympathy with the demands of the people.

The attitude of the committee towards English education is one of undisguised hostility. It regards western culture as an evil since it has produced, and must continue to produce, " some degree of social and political unrest". It speaks of " the dangers of spreading among an Eastern people a Western education, cut down to the lowest possible cost, with no regard to religious training and with little regard to moral training ". And the tone and temper of the committee are so affected by a sense of these dangers as to make it ignore the actual condition of things. It speaks of an " extended knowledge of English"—it says it has been " sown broadcast " in a province where, according to the census returns, only one male out of a hundred and one female out of eight hundred are " literate in English "; and the proportion of those who have a knowledge of English or the vernacular is less than 8 per cent. The unhappy significance of such an attitude would only be weakened by comment. It is worthy of note that, while the committee have spoken so emphatically of the dangers of spreading a western education among an eastern people without religious or moral training, they have put forward no constructive scheme of a useful education other than Western, or

MAITRA, HERAMBACHANDRA—*contd.*

of religious and moral training. From the committee's point of view all these problems, it appears, would be solved by depriving the University of the power to recognise schools and making them absolutely dependent upon the favour of the Education Department and of district officers.

The committee recognise that there is a growing demand for English education. The *bhadralok*, they say ", want Anglo-vernacular schools and are ready to pay for them", the reason being that " it is", in Lord Curzon's words, " the basis of all professional or industrial employment in India". While in other provinces Anglo-vernacular schools " owe their existence mainly to Government or local funds", in Bengal they " have been, and are being, principally established by private effort". The Director of Public Instruction says in his report for 1913-14 that " the increase in subscriptions, etc., may be attributed to the greater interest which people are now taking in certain grades of education". Of the 527 high schools in the province in that year 277 were unaided. Newly established schools are rapidly filled up: an inspector of schools told the committee he " could not make out where boys came from". While the demand for an English education is increasing that for a purely vernacular education is on the decline. " The general public", the Director of Public Instruction says, " has little interest in schools which do not include English in their curriculum", and there is a decrease in the number of primary schools, which is attributed to the fact that " purely vernacular education is not in itself popular". It is quite clear from these facts that, if useful knowledge is to be diffused, English education must be allowed to spread, and must not be checked. But the aim of the recommendations of the committee is to hinder, and not to help, the spread, of English education.

With regard to the alleged evils of the present system the committee, speaking of " the particularly sinister and prominent part " played by students during the recent troubles, say :—" Most people will agree that there must be something seriously wrong in the system which produces such phenomena". The troubles arose from the persistence of Government in a measure adopted in defiance of the most vehement public opposition and of emphatic warnings of its evil consequences, and the entire community was affected by the ferment which it produced. *The system*—that is, the fact that the power to recognise schools belongs to the syndicate—was not answerable for the effect which an administrative measure giving rise to an agitation of unprecedented magnitude produced on the minds of young men who shared the unrest and excitement that pervaded the entire community. The syndicate exerted itself vigorously to enforce discipline. And, if the fact that students often acted in a lamentable manner be taken as a proof of the inefficiency or weakness of the syndicate, the Education Department must also be condemned as weak and inefficient, for instances of breach of discipline were not confined to private educational institutions. The Director of Public Instruction in his last report deplores the unsatisfactory condition of things in two of the foremost Government colleges of the province. As to the relations between the department and the syndicate the Committee say (page 150) that, in the case of one school, on the receipt of a representation from the secretary, " the syndicate, apparently without consulting the director, cancelled their former order " regarding the removal of the secretary and the president of the school on the report of the Director, " and simply stipulated that the head master and one of the staff should be placed on the committee". The director, it must be borne in mind, is a member of the syndicate, and Government is represented on it by other influential members. When the director is not present at a meeting any question in which he is known to be particularly interested is postponed. It is, therefore, difficult to believe that, in the particular case in question, the representation submitted to the syndicate did not show that there was really a case for the reconsideration of the orders previously passed by the syndicate; and it would be a grievous injustice to that body to come to an unfavourable conclusion without having the actual facts of the case placed before us. There have been numerous instances in which the director, after having forwarded a report on a school from an inspector, has modified his views on the inspector's recommendations after a discussion at a meeting of the syndicate. There have been instances in which members of the syndicate belonging to the Education Department have declared some of the demands of an inspector of schools to be absolutely unreasonable.

MAITRA, HERAMBACHANDRA—*contd.*

With regard to the defects of existing schools those who are of the people, who live and move and have their being among them, will differ on some vital points from those who view things from without and are incapable of forming a right estimate of the needs of the people. The committee lay great stress on the reduction of the cost of education as a great evil. They take it to be an indisputable principle that education must not be made easily accessible. One of the charges against schools is that they are "cheap". It is altogether forgotten that it should be the aim of an enlightened educational policy to bring useful knowledge within easy reach of the people. Efficiency must be insisted upon, and steady efforts must be made to promote efficient teaching. But, in the first place, our movement towards the ideal must be gradual, so that existing institutions may be given sufficient time to adapt themselves to the requirements of a new and more exacting system. Secondly, the fact that low fees are charged cannot by itself be taken as a proof that the instruction given is of an inferior quality. One of the most notable forms of philanthropic endeavour in the most civilised countries is an effort to reduce fees by munificent endowments or by grants by the State or by corporations. In the United States, for example, free public schools are established by law. In Scotland half the proceeds of the Carnegie Trust is devoted to assisting students. In England and Wales the county councils and other local authorities for higher education have authority to pay fees. And, in a country so poor as India there is far greater need of efforts, both public and private, in this direction than in countries which are immensely richer. We have a number of really good institutions where the cost of education is largely reduced by endowments and by the self-sacrifice of men who have taken to teaching as the vocation which would enable them to be most useful to their country. And what is needed is that such institutions should multiply. We have had very encouraging signs in recent years of a growing appreciation of the need of education and readiness on the part of enlightened men to spend money liberally on it. Within the last few years a number of good schools have been founded, and in numerous old schools more money is being spent now than before. School fees and other charges have risen everywhere, in some places considerably. What is cheap in the estimation of the highly paid foreigner is not cheap to the man with a monthly income of Rs. 20 or less, who has to get his sons educated to save them from starvation. With 527 high schools and 1,295 middle English schools in a province of about 79,000 square miles having a population of about 46 millions we hear the committee speak of Anglo-vernacular schools "abounding in villages", of "a multitude of English schools flung far and wide" over the province. *One* school in 43 square miles is too many in the estimation of the committee. Such is their enthusiasm in the cause of education!

So far as the peculiar conditions of a country make it possible to reduce the cost of education it is the duty of the people to take the utmost advantage of those conditions. The climate of this country enables us to cut down expenditure on some important heads without loss of efficiency. One of the points urged against schools by the committee is that the buildings are frequently bad and that hostels are poorly housed. The committee note with surprise that in a hostel they saw "20 young *bhadralok* were living in a collection of huts rented from a landholder for Rs. 18 a month". If they had taken the trouble to visit the homes of these *bhadralok* they would have seen that their families were living in huts and that it was with the utmost difficulty they scraped together the little money needed for keeping these young men at school. If living in a hut disqualifies a boy for receiving education let our mofussil schools be emptied of three-fourths of their pupils. "For the crowds of boys", the committee say, "who come to some high schools from distant villages, there is hardly more than a pretence of satisfactory boarding arrangements". The boys live "under nominal and careless guardians". It would be found on enquiry that, in most cases, these gentlemen, who have to work hard for their livelihood, were allowing the boys to live with them because, otherwise, they would have no chance of receiving any education. As to school-houses we must be prepared to tolerate thatched houses in this country. We have every right to insist that there should be no overcrowding, that class-rooms should be dry, well-lighted and well-ventilated. But these essential things may be secured in houses that would look very shabby to high European officials. To insist on expensive *pucca* houses as a *sine qua non* for schools would be to hinder progress.

MAITRA, HERAMBACHANDRA—*contd.*

Teachers are, in most cases, ill-paid and ill-qualified. These are serious evils; but the remedy is not a change of system, but a much larger expenditure of money on schools, both by the people and the Government. As has been pointed out above, the committee have acknowledged that much has been done in Bengal by private effort to promote the spread of education, and the Director of Public Instruction has acknowledged the increasing willingness of people to spend money for this purpose. Let schools as they are to-day be compared with what they were ten years ago—a comparison for which the records of the University would furnish abundant material—and it would be seen that considerable progress had been made in respect of the qualifications and the salaries of teachers.

On the question of discipline in schools as affected by political agitation the committee have brought a very serious charge against the syndicate. They say that "the efforts of Government had failed to prevent this—the enemies of Government from attracting students—for power mainly lay with the syndicate, whose views of the situation and as to discipline and propriety were by no means always identical with those of the Education Department." It is a sufficient reply to this to cite the testimony of the Director of Public Instruction who, in his report for 1913-14 (paragraph 28), says that the University "almost without exception endorsed the recommendations of the inspectors". Government is powerfully represented on the syndicate. No less than *seven* members of the syndicate now are Government servants. The views of the department mean those embodied in the reports of inspectors of schools, which are forwarded to the syndicate by the director. Surely a body constituted like the syndicate, with about half its members belonging to the Education Department, is no less qualified than an inspector to come to a right conclusion as to the steps to be taken to preserve discipline. Could any instance be pointed out in which the director and his subordinates in the syndicate have dissented from the decision of that body? When has an appeal been made to the senate—a body, an overwhelming majority of the members of which are Government nominees—on a question of discipline, so that facts might be freely discussed and the public might judge? And it is admitted by the committee that "discipline had improved owing to the subsidence of political agitation."

Another charge against the syndicate is that "the private high schools of Bengal are not well regulated," because "they are under the control of a body of gentlemen, ordinarily resident in Calcutta." But for the gravity of the issues involved the humour of such a pronouncement by a committee of five, sitting in judgment on Bengal schools, three members of which come from distant provinces, would be delicious.

Certainly most of our schools are not what they ought to be. But the vital question is are they going forward or not? The committee judge from the provincial reports that "little material improvement had been effected in Anglo-vernacular private schools in the quinquennium preceding their enquiry." Let twenty of the older schools be chosen at random, and let their present condition be compared with what they were ten years ago; it will be seen how much has been done to raise them to a higher level. In a matter of such importance not general impressions, but facts, are the only safe basis to act upon.

One of the reasons assigned for taking away the power to recognise schools from the syndicate is that the matriculation standard is too low. This important question is now engaging the attention of the University, and we must wait for the decision of the senate. Personally, I think that the matriculation standard *has* been lowered by the abolition of a text-book in English as *part* (not the *whole*) of the English course by the exclusion of English history from the curriculum, by making geography an optional subject, and by carrying the system of alternative questions too far. We are vitally interested in the maintenance of such a standard as may render efficient teaching absolutely necessary; and, if we are to be allowed to retain the small measure of self-government which we now possess, Government is bound to let the University take such steps as it may think proper for this purpose without seeking pretexts for curtailing the powers of the University. A text-book in English was abolished in spite of vehement opposition from the Indian members of the senate; it was said that it would have the effect of *raising* the standard. And now we find that it has really made the examination much easier than before. We ought to walk in the light of experience and correct this mistake, which was made in spite of our protests.

MAITRA, HERAMBACHANDRA—*contd.*

If " the matriculation standards are too low" the much-needed improvement of secondary education would not be effected by the creation of an alternative examination. For the majority of students, as the committee admit (paragraph 173), would seek to qualify themselves for admission to colleges by passing the matriculation and would continue to suffer from an unsatisfactory system. And, therefore, if a reform is necessary, it must be carried out through the University.

It is admitted that the Education Department is " hardly strong enough to undertake a school-leaving-certificate examination", and it is, therefore, urged that it should be reinforced. The committee also admit that " the necessary curriculum cannot attain general success " until the majority of high schools has more efficient teachers which, the committee coolly declare, is improbable " as long as recognition rests with the University". Accusations like these, made in the face of the fact that the University has compelled schools to employ better qualified teachers and to raise their salaries, deserve no answer.

The matriculation examination with its purely literary syllabus cannot, of course, satisfy the growing demand for industrial education. But the proposed school-final examination would not meet the requirements of the case. The recent outcry against the school-leaving certificate examination in Madras and the opposition which an attempt to deprive the University of control over the matriculation examination has encountered in Bombay show that the committee made a rash prophecy in saying that an examination conducted by the department would "make its way " in Bengal. It is worthy of note that the " middle school scholarship examinations", which are entirely under the control of the department, " do not meet with general favour". (Director's report for 1913-14, paragraph 31.) If " the need for an alternative education to the arts course is realised by advanced Indians themselves " that need would not be fulfilled by a scheme in which there is even less " possibility of intellectual stimulus or emotional appeal acting upon the emotional nature of the Bengali boy " than there is in the matriculation examination. The B classes introduced by the Education Department in 1901 have, the committee admit, failed utterly. The problem of industrial education cannot be solved without a large body of thoroughly efficient teachers and a large number of technical schools with courses of instruction which, while giving a useful training to those who cannot proceed further, should, at the same time, qualify their pupils for advanced teaching in technology, commerce, and agriculture, the demand for which is strikingly shown by the numbers of our young men going to other countries to seek it. In Japan, which has a population of 54 millions, there are 6,647 special and technical schools. The B classes have failed because they lead to nothing. The industrial progress of India and the development of its resources cannot be achieved without the expansion of our universities on lines adopted by foreign universities. The District Administration Committee, in dealing with a question of such magnitude, have aimed at little more than placing schools under the absolute control of the department and of district officers.

Another reason assigned in support of a school-final examination is that it " would largely substitute oral tests and school marks awarded on all-round work and conduct for proficiency in a written examination ". As to character and conduct a certificate from the headmaster is insisted upon by the University. Proficiency in a written examination is not a thing to be despised. But it may be, and ought to be, supplemented by oral tests and school work on useful subjects on which a written examination is impossible. There ought to be examinations and prizes on elocution in every school. The " disdain of manual labour " created by English education is a real evil, and it would be an excellent thing to introduce training in manual labour of some sort in optional classes in all schools, prizes being given for proficiency in it. If a few enlightened guardians were to set the example by compelling their boys to join those classes others would follow. There can be no doubt that the University would cordially co-operate with Government in encouraging the development of our schools on such lines. Mensuration, surveying, and drawing were at one time taught as optional subjects in our schools, and there was an examination on them, in addition to the University entrance examination. It would be a very good thing to revive the system of optional classes for teaching these or other subjects, certificates being awarded on the results of examinations which would be supplementary to the matriculation.

MAITRA, HERAMBACHANDRA—*contd.*

It has been urged by the committee that all schools ought to be placed entirely under the control of the department as Government "has an indefeasible responsibility in regard to private schools". What is the University but an organ of Government, created by it for stimulating and controlling high education? And, why cannot necessary reforms be effected through it—a body reorganised and officialised in the face of strong public opposition in order that it might be a fit instrument for promoting efficient teaching? To turn a senate that has been in existence for a half a century out of office as an unwieldy assembly, to create in its place a compact body filled with the best men Government can find, and then to take away all control over schools from the University, in order, it is said, to improve them, is to display signal incapacity and to act in a most arbitrary manner in dealing with a matter of the most vital importance. It is acts like these which fill the public mind with bitter resentment and create a wide gulf between the Government and the people. Is the indefeasible responsibility of Government confined to secondary education alone? Does it not extend to collegiate eduation? And it would be an equally valid reason for placing the colleges entirely under the Director of Public Instruction.

The committee are not satisfied with recommending that the recognition of schools should rest solely with the director—I say *solely*, because he already has a potent, and almost irresistible, voice in the matter, as is apparent from his own testimony cited above. (Report on Public Instruction for 1913-14, paragraph 28.) The committee have proceeded further and proposed that teachers should be registered and that district officers should have the power to veto the appointments of teachers and members of school committees. Recognition by the director would be "too slow" a process "for the grave needs of the situation" while the committee are eager to provide "a remedy which will go with all speed to the root of the mischief." It is entirely ignored by the committee that "the situation" may have other aspects, that the people may have some rights and aspirations, that Government may have other duties than that of arming itself with absolute power to crush schools without a hearing, nay, without an indictment. If "persons of pernicious political antecedents" have found their way as masters into Anglo-vernacular schools (paragraph 187) when were they reported to the University without being properly dealt with? All civilised government, all government that leaves people free to choose any lawful calling they like and let them pursue their vocations until something has been proved against them, all government that is anxious to secure the chance of a fair hearing to a person before depriving him of a right is "slow."

"All Anglo-vernacular schools," the committee say, "should be under one authority only." Is the proposal to place schools under the Education Department, and also under a district magistrate, consistent with this? In seeking to make the bureaucracy all-powerful the committee do not hesitate to go against doctrines which they have gravely laid down. That men should win the good opinion of the police—the district officer means that—or should avoid incurring the displeasure of the executive in any way in order to be teachers or to join committees, is a proposal which would strike at the very root of social progress and political advancement. That men should be required to prove their innocence before being allowed to do useful work is opposed to the very fundamental principles of civil freedom.

Is the country to go forward or backward? The Hon'ble Mr. Lyon said some time ago in an address to students:—"National development in politics is summed up *in one word—self-government.*"—"It must begin low down and grow." Again, "Government want to teach the people to govern themselves," and "are showing their sincerity by providing the machinery." "The members of Government, *all* Government officials, whether Englishmen or Indians, are one in their desire *to forward the advance of your country*, and we are standing beside you and will go along with you, as comrades to help in the labour which you are taking up." (The italics are mine.) Let the committee's scheme be judged in the light of these words. Let it be judged in the light of the weighty pronouncement that "good government is no substitute for self-government." Here is a proposal to deprive us of rights which belong to the meanest citizen of the Empire, to throw the country backward, to take away the moderate measure of self-government we now have in a matter of vital importance to us, to paralyse the machinery provided by Government itself for that purpose. The people of Bengal cannot be accused of apathy in the

matter of education. It is admitted that their interest in the spread of education has been keen, and it is becoming keener every day. They are displaying an increasing readiness to spend money for securing the inestimable advantages of education. And is the response of Government to this spirit of self-help to be the destruction of the very germs of self-government and of friendly co-operation between the people and their rulers? Are the nation to have no voice in the organisation and control of secondary education because education is, as the committee declare, "a great national concern?" Is it because education is "the key to employment, the condition of all national advance and prosperity, and the sole stepping-stone for every class of the community to higher things" that those who are in intimate contact with the starving seekers of employment, who burn with desire to promote national progress, who hunger after the higher things, are to be deprived of what little power they now have in regulating and extending it?

The demand for education is increasing. The schools are overcrowded, and unrecognised schools multiply. The committee have nothing to say as to how this demand is to be met. Government has not the money to establish a sufficient number of schools to cope with the demand, and yet new obstacles are to be thrown in the way of the establishment of private schools. It is unable to give aided schools "all the money that is required. Anglo-vernacular education is going far ahead of any financial efforts that Government can make." And yet in the next paragraph we are told that schools "should be under the control of one authority only, the authority which can help them with money." It is the people's money Government spends, and the people are spending more and more themselves. The money argument is in favour of an extension of self-government, not a curtailment of rights which the people now enjoy.

The proposals of the committee are entirely one-sided and, as a necessary consequence, in the sharpest conflict with the needs and aspirations of the people. The adoption of such a policy would be as disastrous in its effects on the relations of the people and the Government as the partition of Bengal, and it would incalculably retard the social and political progress of the country.

MOOKERJI, NRITYA LAL.

In consideration of the material turned out by high schools I think it desirable to suggest some changes in the present forms of primary and secondary education.

Teachers in primary schools are generally very insufficiently qualified and paid. This is why the kindergarten system of teaching, so successful in other countries, has proved such a failure in Bengal and has made the public averse to reforms or innovations of any kind. Proper methods are desirable, no doubt, but we think methods will be useless without the right men as teachers. The status of the teacher has got to be improved and better salaries, with a liberal system of provident funds, should be provided not only in all schools, secondary or primary, but also in colleges. The teaching line is so ill-paid that it has become the refuge of failures from all other lines. To obtain the desirable class of men who will turn out better work it is necessary to make the line attractive by raising the salaries and allowing scope for greater freedom in such matters as the selection of text-books, the methods of examinations, etc.

In this connection, it is necessary that persons having no knowledge of primary or secondary education and entirely ignorant of the vernaculars should not be entrusted with the very onerous and responsible duty of inspecting schools. In some cases, inspecting officers have been selected from the headmasters of schools. But, in course of time, they lose all touch with practical education by being engaged in the inspecting line solely. Our suggestion is that inspectors should be made to revert to the teaching line after a time so that they may be familiar with the difficulties of actual teaching. This alternation of duties will better enable them to put forward practical and constructive suggestions. Now-a-days it is generally believed that an inspection is a matter of a few hours, and that destructive criticism is indulged in without reference to the local conditions and circumstances. We propose that an inspection should last for days, instead of hours, and, by actually undertaking the work of teaching, inspecting officers should lead the way to a better state of things. It is essentially necessary that inspecting officers

should be looked upon as sympathisers and helpers, rather than fault-finders. Continuity of policy is necessary as it sometimes happens that one inspecting officer completely reverses the policy of his predecessor. There should not be frequent transfers of officers who have made themselves conversant with local conditions.

School committees often include men who are not conversant with educational ideas and methods and it is necessary that they should not interfere with the internal work and management of the school, as is sometimes the case. Headmasters must be given a free hand as to the internal affairs of the school. Nothing strikes us so much as the difference in the position of a head master in Bengal and in England. The dull uniformity of text-book committees in selecting books and the hard-and-fast rules of the Education Department leave very little initiative in the hands of the headmasters and his colleagues. It may be urgued that there are headmasters and headmasters and all of them are not fit to be entrusted with so much freedom. But we look forward to a time when the headmaster will be regarded not as a wretched schoolmaster, but one who fills a very important and responsible position in social economy. If the prospects and position of the head master are made attractive the incapables will be weeded out in a short time. If it be considered necessary that text-book committees should be retained, while allowing a much greater latitude to headmasters in the choice of books, it is essential that the preponderating element in such committees should be headmasters and teachers—men who are practical educationists. It cannot but militate against the interests of true education if the selection of text-books is due to a canvass of interested persons on a superficial examination of their contents by persons who are ill-qualified for this responsible task.

PEAKE, C. W.

In considering the reform of the Calcutta University it is, above all things, essential to remember that the whole question is intimately linked with that of the general administration of the country, and that a scheme which merely takes into consideration the conditions necessary for the successful establishment of a centre of higher learning and research will entirely fail to meet the present educational necessities of the province.

At present, the University controls, for all practical purposes, the whole of secondary education, in which term I include the education given in the higher classes of schools teaching up to the entrance standard and in colleges up to the intermediate examination. It is thus responsible for the education of every class of individual employed in the economic life of the province above the standard of the mere labourer, from the clerk in a merchant's shop or office up to the high court judge and university professor. In fairness, it must also be remembered that this unduly extended range of activity has been forced upon the University by the omission of Government to provide alternative machinery to deal with those branches of education which are ordinarily regarded as outside the proper sphere of the work of a university. It has thus come about that we have had in charge of the secondary education of the province a body of men totally unfitted by experience for work which, above all things, requires special training and experience, men for the most part fully engaged in other professional work quite alien to school education. An examination of the ordinary personnel of the syndicate will clearly bear this out. It usually consists of three lawyers, three doctors, one or two engineers, two professors of science, two or three members of arts colleges, arts professors, and a director of public instruction. The latter is not necessarily an educational expert, and is absent from Calcutta for at least four months in the year. At best, he is usually the only member of the syndicate who visits schools for purposes other than those of prize-givings, the others relying for their experience on the hazy recollections of their early boyhood. The consequences of the assumption by the University of an improper share in the burden of secondary education have been disastrous both to university education and secondary education itself. The syndicate has had no time to deal with general problems and has only been able to examine superficially and perfunctorily the cases of individual schools, and then only at the expense of time that should, naturally, have been devoted to university matters. The inefficiency of our high schools is in a

PEAKE, C. W.—*contd.*

large measure due to the natural hesitation of the syndicate to proceed to extreme measures to enforce improvement without careful and independent enquiry as to the capacity of the locality to provide the necessary funds for the removal of alleged deficiencies, and this enquiry they are rarely in a position to make. When a report is received from an inspector and referred to the school half the charges are usually denied by the school authorities and improvement is promised with regard to the rest. The matter is then dropped and, when the case of the school is again brought up after the next visit of the inspector, everyone has forgotten about the previous history. The same procedure follows and the school gets another lease of life on practically the old conditions.

There is no necessity to labour further this point. The commission can easily judge for themselves as to the fitness of members of the syndicate to deal with wide problems of secondary education by investigating the training and experience of the members composing it, and a little elementary arithmetic will show what opportunities for the systematic control of 600 schools are afforded in weekly meetings of the syndicate in each of which some two or three hundred items of business have usually to be discussed. As a further consequence of the non-existence of an agency independent of the University to provide higher secondary education, the colleges, especially the Calcutta colleges, are flooded with first and second-year students, doing school work, absorbing the energies of the staff, crowding laboratories, common room, and library, and by their numbers preventing anything in the shape of independent supervision and real corporate life. The evil does not rest here. Calcutta is far from being an ideal spot for the younger students. Opportunities for healthy open-air life and recreation are practically non-existent, while inflated house rents and the high price of food make it a matter of the greatest difficulty to obtain board and lodging suitable even for the least exigent of the poorer students. The Commission will have obtained definite evidence on this point in replies to questions 17 and 18. I am convinced personally that the recent political and disciplinary troubles among students have been largely due to the morbid mental condition resulting from life in unhealthy surroundings and strenuous study unrelieved by exercise and healthy recreation in the open air. I suggest, without hesitation, that the essential preliminaries of the reform of university education in Bengal are the removal of secondary education from the control of the University and the transfer of the bulk of students in the first and second-year classes from colleges teaching up to the B. A. standard. I should like to state emphatically that I should be strongly opposed to any proposals that would reduce materially the numbers of students reading either in high schools or up to a standard equivalent to that of the intermediate examination. I have no sympathy whatever with the contention so frequently met with in the Press that unemployment is the consequence of the wide extension of higher education. Obviously, a type of secondary education more suitable to the needs of the country would tend to produce, more useful citizens and thus to reduce unemployment, but it has never been shown, and never can be shown that any young men of the classes from which our students are drawn are likely to obtain better opportunities of employment and to become more desirable members of the community by cutting short their education at the primary stage and by refraining from the acquisition of a knowledge of the English language and the rudiments of Western culture. I propose nothing more than a transfer of students who, in other countries would be completing their education in a secondary school, from colleges affiliated to the University to more suitable institutions. On the other hand I am convinced that it is possible without detriment to the administration of the country, to reduce the numbers of students in the third and fourth-year classes and I have no doubt whatever that a reduction in the numbers attending these classes in the larger colleges will react most favourably on the education provided in them, using the term education in its widest sense, while there is little doubt that the nature of the employment found by many of our graduates does not demand education at a university. Evidence on this point will, doubtlessly, be afforded by replies to question 6, and I venture to suggest that it will be an important part of the Commission's enquiry to determine how this change can be effected with the minimum of hardship to the community.

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I now come to practical proposals. I suggest that the university course should ordinarily be regarded as commencing at the present intermediate stage, and that the University should preclude its colleges from taking students reading below that stage or, at all events, as a preliminary step in this direction, should rigidly limit the class of students in the larger colleges to the number that may be reasonably expected to find accommodation in their higher classes. I suggest that additional classes should be opened in the zilla schools and in the large mofussil schools to accommodate students removed from the colleges; in other words, that these schools should be raised to higher-grade secondary schools, teaching up to a standard roughly equivalent to that of the intermediate standard. Students with parents actually resident in Calcutta only should be allowed to take their education in Calcutta at this stage.

I now take up the question of the school examinations. An examination will be required at the present entrance stage, which will serve both as a school-leaving examination for boys who do not propose continuing their education further and as a test for promotion to the next grade, that is, to the present intermediate stage. I should have no age-limit for this examination, the only condition being that no boy should be admitted by a college to the intermediate class before the age of sixteen, assuming that the college intermediate classes continue to exist, but that boys should be allowed to take their promotion to the equivalent class of the higher secondary school without any age restriction. Personally, I am inclined to think that higher secondary schools might conduct their own examinations for the promotion of their own students, the public examination being taken only by boys leaving the school for outside employment or by boys wishing to leave the ordinary high school for a higher secondary school. I regard the point of the age-limit as of prime importance. A debate that took place on the senate on this subject convinced me that, although it was most desirable to have a minimum age for entry into a college, it was preposterous to compel a bright boy practically to mark time in his education for a period that may amount in exceptional circumstances, to two, or even three, years.

I now come to the extremely important question of an intermediate, or higher secondary examination. At the risk of becoming tedious I should like, at this stage to make my attitude clearer by recapitulating the general objects I have in view in the proposals developed in this note.

(*a*) To reduce the number of students taking their education at institutions in Calcutta between the ages of sixteen and eighteen.

(*b*) To keep under school conditions as many boys as possible up to the age of eighteen. By school conditions I mean in particular close individual supervision and school discipline and classes limited to 50 as against the 150 now permitted in colleges.

(*c*) To widen the examination at the present entrance stage so as to cover the cases of boys leaving for employment and those wishing to proceed to the higher stage of education. This examination should be conducted by a board of education independent of the University.

(*d*) To establish an examination or rather examinations at the present intermediate stage to cover the cases of boys leaving for employment and those wishing to enter university classes; the examination, in the first case to be conducted by a board of education and, in the second case, by the University as a matriculation examination.

(*e*) To limit the numbers taking the university course, that is, the course commencing at the present third, year B. A., to those whose future employment is likely to be of a kind which calls for a university training.

(*f*) To make the standard of the intermediate examination more elastic so as to encourage brilliant boys to specialise in the so-called intermediate stage so that they may be in a better position to profit by an honours course in the B. A. and B. Sc. stages.

For convenience, I shall allude to the first of these two examinations at the present intermediate stage as the higher secondary examination and to the second as the matriculation examination, assuming the University course to be commenced at the Intermediate stage. The first of these examinations, the higher secondary examination,

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should be taken two years after the first secondary examination at the present entrance stage. The matriculation examination would be taken ordinarily after the two-years' course, but I would not make the two years compulsory. I see no necessity for any age-limit as far as the examinations themselves are concerned. I would strictly enforce the age-limit, say, 17½ years, for entrance into a college commencing at the present intermediate standard. As the result of the above proposals many of the more clever boys would have one or two years in hand after they have passed the matriculation examination and the time thus put at their disposal they would devote to specialising in mathematics, science, English literature, Sanskrit, etc., with a view to obtain scholarships in these subjects, which I suggest should be awarded at this stage only for special proficiency in some subject or other. Unless something of this kind is done the honours examination at the B. A. stage cannot be made to differ materially in character and standard from the pass examination, and the more clever students will be unlikely to develope themselves to the utmost of their capacity. To take, for example, a subject with which I have some personal acquaintance. At the present intermediate examination the mathematics syllabus is confined to elementary algebra, very elementary trigonometry, geometry, and mechanics. Students in the United Kingdom who are taking up mathematics as a speciality will, at the same age (eighteen), offer for scholarships higher algebra, trigonometry, theory of equations, analytical and geometrical conics, the elements of the differential and integral calculus, mechanics and hydrostatics. With an educational equipment of this order they can profitably pursue an honours course, and I see no reason why our better students should not have the same advantages. The practical difficulties in the way are insignificant. The boys after going through their matriculation examination will remain at school, but will not usually attend the ordinary classes, but work by themselves, getting individual attention during any leisure moments the master in charge of them may have during school hours or outside school hours. There is nothing novel in this proposal. It used to be the practice in very many schools in England of which I have had experience and I do not think matters are much changed now in this respect. The masters use the utmost efforts to get boys to read for scholarships partly because they find the higher work congenial and also because success in obtaining scholarships raises their reputation in the educational world. The latter motive is, possibly, a selfish one, but professional success is regarded as a legitimate ambition in other callings. With regard to the standard of the higher secondary examination as distinct from what I have called the matriculation, it must be practically determined by the average efficiency of the schools. The main object of the examination is to classify, in the interests of employers, the boys who have passed through the higher school course. It will be futile to raise the pass standard to a height beyond the capacity of the schools. If the economic life of the province demands in all two thousand students it will be useless to select by examination only two hundred. If this standard of the pass is to be raised it must be done gradually in order to keep pace with a corresponding increase in efficiency in the school. As it will be an examination for students terminating their academical career the successful candidates should be graded and the standard of the first division might be independent of the average efficiency of the schools. The standard of the other branch of the higher secondary examination, *viz.*, what I have called the matriculation examination, is intimately connected with the view that may be adopted as to the class of students that should be allowed the exceptional privilege of a university education. I hold strongly the opinion that the numbers attending the University should be reduced, but I am opposed to this end being achieved by the simple process of raising the standard of the matriculation. In addition to the more intelligent students, who will become lawyers, doctors, professors, engineers, deputy magistrates, schoolmasters, first-class clerks, and occupy other important positions in the economy of the province and who, it will probably be conceded, should have a university training, there are sons of rajas and well-to-do zemindars not necessarily possessing exceptional abilities who will, nevertheless play important parts in the province owing to their wealth and social position. I regard it as in the highest degree undesirable that these latter should be precluded from a university career and from the moral training and widened mental outlook that may be reasonably expected to follow from it. I fully recognise that there must be a lower limit to the

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standard of the examination, but I suggest that the upper limit should be one which would keep it within the compass of boys of average ability and powers of application whose financial resources have permitted them to obtain their education in one of the more efficient schools of the province.

To limit the number of students taking a university education roughly to the classes mentioned above the following steps appear to me to be essential. Government should indicate the classes of appointments which they are prepared to fill entirely from students who have taken the higher secondary examination without proceeding to the university degree. The number of these appointments might without detriment in any way to the efficiency of the administration be made very large. A rigid adherence to this policy should have the effect of reducing largely the number of students of limited means and ordinary attainments who are now tempted to incur for themselves, and impose upon the State, the unnecessary expense of a university career. Secondly, there should be a large increase in the fee rates of colleges, accompanied by an increase in the number of scholarships awarded on the results of the matriculation examination, while each college might be permitted to select, either on the results of the matriculation examination or a special examination held by themselves for this purpose, a limited number of students to be admitted on reduced terms.

I have said little about the general character of the secondary examinations but, as they would ordinarily serve as entrance examinations for the medical, enigineering, and agricultural colleges and technical schools of the province, it is obvious that the optional subjects of the examinations must cover a very wide field so as to meet all requirements.

I make no apology for having written at considerable length on changes that I deem essential in the organisation of secondary education as I am convinced that the success of any proposals put forward by the Commission for the improvement of the University will depend mainly on the manner in which it copes with the problem of education in the earlier stages. This extremely difficult and controversial problem cannot be avoided if the findings of the Commission are to be of more than academic interest. I fully realise that any serious effort in the direction of reform along the lines I have superficially indicated above will confront the province with a serious financial problem. In the first instance, it is clear that considerable non-recurring expenditure will be required in order to equip schools with laboratories, etc., before they can be raised to the higher secondary grade. To the best of my knowledge not a single high school in the province possesses a laboratory of any kind. Further, although I have proposed little more than a transfer of students from the intermediate classes of colleges to the upper classes of higher secondary schools, this change will necessitate a largely increased staff as it involves, or should involve, classes limited to 50, instead of 150, the number regarded as permissible in college. Additional class-rooms, of course, will also be required. Also it must be recognised that, as many of our larger colleges are financed from the fees of students in their enormous intermediate classes, some alternative sources of revenue must be provided for them if they are to remain solvent. The monetary question has to be faced or we shall be merely in possession of plans and estimates for a noble building without provision for the land material, and labour necessary for giving it concrete form. The problem, though difficult, is not, altogether hopeless of solution. If in their proposals for reform, the Commission are able to carry the bulk of the educated and wealthy classes of the province with them, it is possible that the present political and social activity might be developed, partially at all events, into an intense national effort for the improvement of education in the province, as a necessary preliminary towards the full attainment of political ideals and an irresistible argument in favour of their concession. History has shown that when a nation is really moved unexpected sources of income reveal themselves. It is essential, however, first to convince the public regarding the deplorable condition of the majority of our schools and colleges in comparison with those of other countries. As an inspector of schools in my early days I often felt that the inefficiency of the schools—bad buildings, ill-paid staff, etc., — was not due invariably to the poverty of the neighbourhood, but to the fact that the school was considered quite good enough for its purpose in the opinion of those responsible for its maintenance. Protests on the part of inspectors were usually attributed to professional cant and misgivings were easily allayed in the absence of a standard of comparison. If anything

can carry conviction to the classes on whom the province depends for private aid it will be an unreserved expression of opinion from the Commission both as to the quality of our educational work here and as to the extent to which it is receiving assistance from private sources. I may be over-sanguine as to the prospects of success in an appeal to the public, but I am convinced that no improvement will be effected unless substantial funds are forthcoming and I am doubtful about the ability of Government to provide them with the heavy claims of primary education still to be met.

ROY, The Hon'ble Babu SURENDRA NATH.

I think the secondary schools from which the boys of the University are recruited are neglected both by Government and the University. It is necessary that secondary schools should have competent teachers and they should be properly equipped and particular care should be taken to impart proper teaching in those schools. If there is a proposal by Government to increase the Government grant to privately-managed schools they lay down such conditions that it is impossible for the managers of these schools to take advantage of Government's offer. It is a notorious fact that the Government grant to the privately-managed schools falls far short of what Government ought to do under the grants-in-aid rules.

There ought to be an education board consisting of official and non-official members for the administration of secondary schools. There is no one to look after their grievances. Government inspectors of schools look to the secondary schools from the official point of view, not from the educational point of view, and not how to foster more education in the country.

I would propose that instead of removing the University from Calcutta, two colleges—one a good arts college and the other a good science college—may be established in one of the healthy suburbs of Calcutta. If possible, these colleges may be residential colleges.

SEN, PRAN HARI.

I think, I need hardly mention, that education, as it is imparted in this province, is generally taken as falling under three separate divisions or stages, namely.

(*a*) Primary.
(*b*) Secondary.
(*c*) Collegiate.

Although all the three stages have value and importance of their own and cannot, properly and reasonably speaking, be dissociated from one another, still as primary education does not evidently come within the scope or purview of the valuable and important inquiry and examination in which your august body is engaged, I think I may, with tolerable propriety and safety, summarily dismiss it. I now come to the secondary stage. This stage ushers us into a point or period where university life really begins or, at any rate, should begin. For, the stage of the three R's over the boy just begins "with his satchel and shining morning face to creep like a snail unwillingly to school." It may not be altogether out of place for me to mention here, by way of a little digression, that secondary schools in Bengal mean and include schools teaching up to the matriculation standard, as well as those teaching up to what is called the middle English, or minor, standard; and that the vast majority of secondary schools of the higher class, *i.e.*, high English schools, are founded, supported, and maintained by private individuals, at their own expense, without even a single rupee being contributed by Government, district board, or municipality. As I have already submitted, university life really begins or, at any rate, should begin here. As a matter of fact, however, under the present arrangements (and I very much regret to have to say it, but say it I must, for the sake of truth) the University does not, in the least concern, or cannot afford to concern itself with the middle English schools and their affairs; and the way in which, and the extent to which it does concern itself with high English

SEN, PRAN HARI—*contd.*

schools and their affairs, leave a great deal to be desired. As matters at present stand, middle English schools and the whole of their affairs and concerns are wholly and entirely left, God only knows by whom and why, in the hands, and under the supervision and control of the Government Education Department, or rather in those of the various officers of its inspecting branch. As regards high English schools and their affairs all that need be said or, all, I should with your permission, like to say, is that they are *three-fourths* left in the hands, and to the discretion of the Education Department, or rather to its superior inspecting officers, the remaining *fourth* being, for some purposes only, in the hands of the University *merely*; control, supervision, management, etc., being, again, as in the case of middle English schools, left to the "men on the spot," to wit, the inspecting officers of the Education Department; possibly because, under the existing arrangements, the University has no inspecting or other agencies of its own, as it undoubtedly should have. Speaking for my humble self, the state of things but slightly indicated or adumbrated by me above, does not seem to be a very sound, reasonable, hopeful, or encouraging one. For, if it is the desire, aim, and object of Government, as well as of those interested in the cause of education and the welfare of the country, as I have not the least doubt it is, that our universities should, year after year, turn out graduates and under-graduates who should not only be fully equipped in advance to successfully fight the battles of life, but should also be possessed of those social, moral, intellectual, and other *virtues*, in the strict and literal sense of the word, which go to make up a really good and useful citizen, a good and useful neighbour, a good and useful member of society and of the body politic, it is in the highest degree necessary and even indispensable that our boys should, from the very beginning, and at an impressionable period of their lives and careers as students, be *affiliated* by and allowed to have their due and proportionate share of the fostering, solicitous, and even affectionate care and attention of the benign mother —the University;—beautifully and harmoniously combined, of course, with such control and check as are naturally exercised by parents at home in our every day life.

In order, Sirs, that you might be in a position to form a correct estimate of the true and real state of things prevalent in the high English schools situated in the rural areas of Bengal and, in order that the many and various matters connected with the internal working of the machinery of those schools, calculated to furnish tolerably good data for the solution of some of the most important and vital educational problems of the present hour, might not stand the chance of escaping your attention and observation, in the midst of the multifarious engagements, calls and functions, which have, for some time past, been putting such a frightful strain upon your body and mind, I should like to place before you a few salient facts connected therewith, with as much brevity and terseness as I could command, or, as the nature of the subject would admit of.

Of all the educational institutions in Bengal, high English schools are perhaps the most important, and, therefore, deserving of the most serious and anxious thought and consideration of all concerned. *Firstly*, because these schools serve as so many feeders to the different colleges, arts, technical or professional, affiliated to the University: *secondly*, because they are daily growing, expanding, and multiplying in bulk, area, and numerical strength, to an extent never witnessed, or even dreamt of before, and, almost *pari passu* with the daily, or shall I rather say hourly, increasing intellectual and other awakenings, coupled with the very life-and-death struggle for existence which, at the present moment, is so furiously raging all over the world, and particularly in Bengal; *thirdly*, because the conditions and circumstances prevailing in, and surrounding these schools and affecting and influencing their very fabric, character, constitution and even complexion, are daily getting so bad that, unless speedy and effective remedial measures be adopted by the authorities to cure the defects, it would, I am afraid, be almost hoping against hope to expect to see the fulfilment and consummation of those high ideals of university life, "atmosphere of pure study," comradeship, and *esprit de corps* of the modern times, which are so devoutly wished for by all who have the interest and welfare of the country and of the Empire at heart.

The majority of you, Sirs, are perhaps not fully aware that, as matters at present stand, high English schools, of all educational institutions in Bengal, labour most under the serious disadvantage and inconvenience of having to serve, obey, and please simultaneously, and in an equal manner, more than one master, all having their individual

SEN, PRAN HARI—*contd.*

ideals, standards, and ways of thinking, to which the servants are expected to conform without the least demur or scruple, even though they might, now and then, happen to be confronted with doubts and difficulties and with intricate questions of principle or procedure. Such being the case, there is no wonder that the proverbial failure of the servant, who wants to please many masters, should, now and then, occur to the prejudice and detriment not only of the masters and servants themselves, but also of all real work. Need I tell you, that the masters referred to by me, above, are no other than the following :—

(*a*) the University ;
(*b*) the Education Department.
(*c*) the proprietors of schools, if any ; and
(*d*) the parents or guardians of students who, by the way, wield or exercise no mean or insignificant an influence or power in the little kingdoms of their own villages or neighbourhood.

I wish it, with all humility, to be clearly understood that, as my experience of matters connected with high English schools does not extend much beyond the rural areas of Bengal, the above statements and observations are intended, in the main, to be limited in their application to those schools only, though, doubtless, they also apply *mutatis mutandis* to the state of things prevalent in similar schools situated in the urban areas as well.

I shall now say a few words with regard to the respective powers and functions of the Education Department and the University. So far as high English schools are concerned it does not seem to be very clear as to what those powers and functions exactly are. Cases not unoften occur where, in the absence of clear and well-defined provisions or lines of demarcation, with regard to those powers and functions, and with regard to the duties and responsibilities, and powers and functions, if there are any, of the teachers, and the authorities of the schools, the latter have oftentimes to hopelessly grope in the dark, or where they find themselves inextricably placed on the horns of a dilemma. Beyond laying down certain provisions and conditions in its regulations chapters XXI, XXII, XXV and XXX, in a rather vague and general manner, with regard to the recognition of high English schools and the continuance and withdrawal thereof, with regard to house accommodation, sanitary and other arrangements, the maximum number of boys to be taught in particular classes or sets of classes, and other kindred matters ; and beyond laying down and prescribing curricula and syllabuses of study in the different branches of learning *merely* and *solely* for students preparing for the matriculation examination, and beyond performing functions, for the most part, of an examining body, the University does not seem to me to as much concern itself, or to be in as much touch with high English schools and their affairs, as reasonably and properly they should ; the result being that the practical portion of the whole business of making or marring, building or breaking and working out the details, is left wholly and entirely to the discretion of the inspecting officers of the Education Department, without any safeguard or check whatever being provided for against contingencies of a thousand-and-one nondescript characters and complexions. In this connection, I should, like to quote a few lines from the address which the Anglo-Indian Association presented the other day to His Excellency the Viceroy and Right Hon'ble Mr. Montagu, Secretary of State for India :—

"A mistake analogus to that which has been made in the matter of universtiy education—the mistake of beginning at the top—with the result that university education is now paralysed owing to the incapacity of the secondary schools to provide the University with proper materials."

Now, how can secondary schools be expected to be able to provide the Univeristy with "proper materials," when the University is not, or perhaps cannot afford to be in adequate touch with those schools, and when it does not, as it should, provide those schools with suitable, or any model or mould at all, whereon or wherein the clayey or plastic material of a boy might be shaped or cast, preliminary to its being sent up in a presentable manner to the University for polishing, finishing, and even inspiring life and vigour into it.

The result is that the superior inspecting officers of the Education Department mostly foreigners having foreign ideals, standards, and ways of thinking, become, for all

SEN, PRAN HARI—*contd.*

practical purposes—to put the thing mildly—the supreme masters of the situation, and the teachers engaged in the sacred, though somewhat thankless, task of teaching, training and *educating* the youths—the future hopes of the country—are either bound hand and foot to carry out the mandates of the masters and to conform and accommodate themselves to their models, standards, ideals and ways of thinking, however unsuited to the manners and customs, conditions and circumstances of the country with the implicit obedience of the Military Department, or, at least, they are relegated to the position of persons playing second fiddle. The authorities of the school fare no better, or should fare no better, if they at all care to keep their schools. To give a concrete example; even in a matter of such supreme and vital importance as the selection of text-books for the use of our boys, it is not thought necessary to consult, or even to invite an expression of opinion from that great body of humble persons who are actually engaged in teaching *those books* to their pupils, and who, from their practical experience, should be able to give a fairly correct and just opinion as to their merits or demerits, or their suitability or otherwise of being placed in the hands of young boys. Then, there is the very important matter of the admission of boys to schools and their transfer from one school to another—a matter which has, for some years past, come to be one of the burning questions of these trying times, and has caused such an amount of trouble, inconvenience, confusion, anxiety and even alarm all over the province, socially, morally, intellectually, economically and otherwise, that unless some speedy and drastic measures be adopted to remedy the evil, I, for one, really shudder to contemplate where all this might lead to. The admission and transfer of students have, of late, for reasons which it is not easy to guess, much less to account for, been so much overburdened and hampered with conditions, limitations and restrictions of all sorts, by the Education Department, more particularly in Eastern Bengal (for, strange as it may seem, there is one set of rules for Eastern, and another and a different set for Western Bengal) that coupled with the very stringent provisions of the regulations of the university as to number limits, made far more stringent by the too strict and liberal interpretation put upon them by the inspecting officers of the Education Department, they make the matter of admission not only one of extreme difficulty, but oftentimes an impossibility. The consequence is, that hundreds of young and ardent boys of tender years are forced to wander about from place to place and school to school like homeless gipsies, seeking for admission but finding none, and compelled to vegetate, cogitate, ruminate and, I do not know what more, as best they may. If there is any appearance of heat, I humbly beg of you to forgive me, for my mind is so full of feelings that I can hardly refrain from giving vent to them. I have now, I trust, placed before your august body the picture, however roughly painted, and would leave it to you to pronounce your judgment. I am afraid, I have already made too large a draught upon your patience and valuable time. I must, therefore, refrain, however reluctantly, from going into further details, and shall bring this portion of my statements and observations to a close, merely by saying, with feelings of the greatest possible delicacy that, to my mind, much of the present deplorable state of turmoil, anxiety and alarm in the educational cosmos of Bengal is mainly, if not solely, attributable to the atmosphere of suspicion, distrust, want of love and confidence, and to the godless, soulless, and unsympathetic, petrified, wooden, and even iron system of education that have, of recent years, clouded the educational sky of Bengal. In this connection, I cannot resist the temptation of quoting, as being most appropriate, a few lines from the broad-minded liberal, wise and pregnant observations made by the honoured President of the Commission, in the columns of the "New Statesman" as reproduced in the "Bengalee" of November 8, 1917:—

> "Our statesmen will find that they have to adopt a new pattern of national education because in no country in the world has there been a passion for equal opportunity, combined with capacity to use all the resources of science, law and wealth in an educational policy, which mixes freedom and authority in tolerable proportions. Should we not in England aim at an education which will suffer a new ideal to shape itself among us and will bring it into the lives of all citizens from infancy onwards—an ideal which has as its corner-stone the axiom of freedom? The freeman is an end in himself, while the slave's life is determined by the judgment of another. Such freedom is not incompatible

with discipline (the service of God in perfect freedom, but is incompatible with irresponsibility. You may have a very efficient education which rests, more or less unconsciously, upon the presupposition some degree or other of comfortable slavery. But the only educational aim which is consistent with freedom in a commonwealth is that of bringing to every individual citizen the chance of becoming and remaining "a sensitive spirit, a creative soul" and, therefore, sensitive to the obligations of the service which a free community is even in process of creating and readjusting."

SMITH, W. OWSTON.

In order to get good teaching it is necessary to have a competent Englishman as head-master in every school. This is impossible owing to the expense. There should at least be such a man in every zilla school or the head school of each division. Not every Englishman is competent. From the point of view of pronunciation it is desirable that he should not be an Irishman or Scotchman or American. The prospects and advantages of the post should be made sufficient to attract good men. When selected and appointed the head-master should be permanent. He must not be taken away to become an inspector or lecturer. Frequent changes are ruinous to a school. Nothing is more important than to raise the status of school teachers and a beginning should be made by having competent permanent men of first-class ability in at least a few schools. The headmaster should consider teaching his first work. He ought not to waste his time over files and office routine. As far as possible he should have a free hand; if different methods were developed in different schools there would be no harm in that. He should make himself familiar with one or more Indian languages. If he were the right sort of man he would do so without any pressure. He should devote some time to teaching the other masters with a view to eradicate the mistakes in English which have become classical here. Other mistakes would, doubtless, be made, but attention might be called so often to the most familiar ones that every one would become aware of them. Schoolboys should not be allowed or encouraged to use translation manuals or books on history and other subjects written in English by Indians. These always contain the mistakes to which students are already most liable. There is in existence an examination in spoken English for teachers. At present, graduates seldom present themselves for it. Only the lower teachers attempt to pass it. It should be conducted in a more formal and regular manner and all teachers should be expected to take it. It is very important that teachers should be permanent, and yet we must avoid the slackness and indifference which permanence on a fixed salary too often produces. Magistrates and high officials should treat teachers with respect so as to increase their *mân* or *izzat* in society. We must do everything to abolish the idea that the teaching profession is only for those who have not energy enough to get into anything else. At present, neither the Indian Educational Service, Provincial Educational service or any other branch of the Educational Service attracts a sufficient supply of the best men. When by chance we get a good man we ought to trust him and honour him, and not to treat him in such a way as to make him wish he had chosen another profession.

It is suggested that some subjects, such as history should be taught in the vernacular. This idea must be received with caution. English must not be relegated to the position of a dead language. It is known only from books too much already. Most students take in impressions only through the eye. Consequently, though daily brought into contact with an Englishman, they continue to speak English in their way, and not in his. This tendency will be accentuated if they are not taught in English and they will be still more at a disadvantage when they find themselves in a college where lectures must necessarily be given in English. Though history and such things should be taught chiefly in English the teacher should always be ready with an explanation in the vernacular when he thinks it would be better understood. Students should be encouraged to translate to and from the vernacular. Especially they should be made to understand that translation is the expression of *ideas* in another set of words, and not the substitution of synonyms for one another. Differences of idiom should be carefully noticed, but it is almost useless for students to learn by heart lists of what are called 'idioms' and 'proverbs."

SMITH, W. OWSTON—*contd.*

Some time ago the tendency was to discourage second-grade colleges. It is now felt that they ought to have been preserved and treated as schools, or that the kind of work done in the intermediate classes might now be done in schools. It is true this work is very elementary, and that in England and some other countries the teaching given in the higher forms of schools goes further than that given in the first two years of a college course here. But then the men teaching in schools in England are more highly qualified than many of our college lecturers. Here we have no such men in schools. It would be impossible to have efficient teaching for boys of seventeen and eighteen and nineteen (*i.e.*, about up to the intermediate standard) in most of our high schools. Where there is a really efficient headmaster (such as I have already described), with adequate buildings, it might be possible. A beginning could be made in one school in each division. The presence of older boys would be a help and stimulus to the younger and a spirit of co-operation between them and the teaching staff could be developed. But, as things stand at present, it is better in most cases to get the boys out of the schools and into the colleges as early as possible. The colleges are comparatively efficient. It is very desirable to have at least a few schools of this kind. If the system could be tried upon a large scale colleges would then be able to do their proper work. Their professors would be free to devote themselves to the higher teaching, such as is now given from the third to the sixth year.

XV. SERAMPORE COLLEGE, SERAMPORE, DEVELOPMENT OF.

General Memoranda.

Serampore College, Serampore.

In general, we may say that, provided the necessary funds are forthcoming, whether from Government or other sources, on a scale sufficiently adequate to meet the new situation that would be created, we are disposed to view with favour and cordial approval the following suggestions :—

(*a*) That our collegiate school should be reorganised so as to the permit of work of the present I.A. and I.Sc. standard, being done on school lines in the upper classes of the school.

(*b*) That the college should devote its chief energies to a three-years' course of real university work, at first in living relationship with the reorganised University of Calcutta, but with a considerable measure of independence, the ultimate aim being complete independence, so far as its ordinary courses are concerned, with the college organised on necessarily limited, though real university, lines, and conferring degrees on the basis of its own charter.

Certain matters need to be made clear at the outset before we proceed to a consideration of details.

We have not been able to consult our college council in England, and secure their approval of this memorandum. We have, however, reason to think that on the broad lines of educational policy their views would coincide with ours ; but we cannot hope that they will be able to increase, at any rate in the near future, their present expenditure on the college. Unfortunately, war conditions have made it impossible to make any wide appeal for enlarged support for the college during this the centenary year of its foundation ; but we are able to state that the college council contemplates issuing at the earliest opportune moment an appeal to the supporters of the college for an augmented income and a worthy endowment in the hope that there may be some substantial issue by 1927, the centenary of the college as a chartered institution with university powers. In view of the conditions that now prevail throughout Western countries it is impossible to forecast the result of any such appeal when made. If, therefore, the proposals for reorganisation on the lines suggested by the Commission are to have any practical issue at a comparatively early date liberal grants will need to be forthcoming from Government sources.

The history and traditions of the Serampore College, and our present lines of work are favourable to an advance on the lines suggested. We believe we are destined sooner or later to realise the ideals of the founders of the college—Carey, Marshman, and Ward—and for some years we have been steadily, but surely, moving in that direction. So far as the school is concerned we have for some years been severely handicapped through lack of proper school buildings and site on which to erect them but, under the present headmaster—a highly qualified Cambridge graduate with teaching experience in a good public school in England—solid foundations are being laid with a view to future advance. The college has, in recent years, become a recognised centre of higher education, attracting students from all parts of India for theology and arts. More especially has it become the leading institution in India for the scientific study of Christian theology, religion, and sacred literature on university lines. As an arts institution, though our numbers are comparatively small, we have secured a definitely recognised position in the higher educational life of Bengal, and more especially in the thickly populated district of Hooghly. All this impels us to look forward to the future with considerable hope, and we entertain no doubt that those responsible for the conduct and support of the college will, in the spirit of its founders, continue to plan and work on its behalf, even though it may take a considerable time before its destiny is fully realised.

The broad foundation principles for which we stand as an educational institution constitute, in our judgment, a real asset in connection with the proposals for educational advance now being entertained by the Commission. The college was founded for the promotion of piety and learning, particularly among the native Christian population

Serampore College, Serampore—*contd.*

of India. It was, however, stipulated that it should be freely open to all castes and creeds, and under conditions that would involve no violation of a tender conscience. The denominational restrictions imposed by one of the statutes have now been removed by legislation, undertaken with the good-will of all concerned. While we have thus a definitely religious and Christian basis for our institution we consider that the principles for which we stand in the sphere of education are broad enough to enable us to render truly national service to the great cause of human enlightenment in India. Our constitution is set forth in the charter and statutes of the college and the new Act. The constitution, as now modified, is more especially adapted to the conditions under which we now work, but the council is empowered by the statutes and the new Act to make such bye-laws as may at any time be deemed necessary for the proper government of the college. New bodies working in co-operation with the faculty and the senate, and under the general direction of the council, could thus be brought into being so as to meet the needs of the situation as it may in the course of the time develop.

We have now to deal in more detail with our plans and proposals for the future, more especially on the basis of the suggestions made by the Commission.

The reorganisation of our collegiate school on lines that would include the greater part of our present college work is manifestly no small undertaking, especially if the work in the reorganised school is to be more effective than what is now possible in the I.A. classes of collegiate institutions. We understand the Commission have in view a thoroughly well-organised and well-equipped institution planned largely on the lines of a good English public school, but adapted to Indian conditions, and especially to the needs of the Hooghly district. Very little in that direction has hitherto been attempted in the sphere of Indian education. To meet the situation, as indicated by the Commission there will be needed a high school which shall include boys now working in the two intermediate arts classes of the University, and shall extend downwards to the lower primary grade, the latter being included in order to obtain thoroughly efficient teaching from the very beginning. The work we propose for the post-matriculation classes is as follows, reckoning a week as containing 30 periods of teaching :—

Compulsory English	11 periods.
Compulsory Bengali	3 „

The optional subjects are in four groups : one group is to be taken.

GROUP I.

(*Literary.*)

Optionals—

Sanskrit	6 periods.
History	6 „
English literature	4 „

GROUP II.

(*Preliminary to engineering, etc.*)

Mathematics	8 periods.
Physics	8 „

GROUP III.

(*Science.*)

Physics	8 periods.
Chemistry	8 „

GROUP IV.

(*Commercial.*)

Mathematics and Book-keeping	5 periods.
Shorthand	5 „
Typewriting	4 „
Geography	2 „

Serampore College, Serampore—*contd.*

We anticipate that there would be a large number of boys in the higher classes, and that some of the work would have to be done tutorially—in particular, essay-writing both in Bengali and English—where a master cannot well deal with more than 10 boys per week. Hence, in estimating for a school of 600 boys, we reckon that 30 teachers would be required, among whom we should like to include 3 Englishmen and 2 English ladies, the latter for work among the little boys. We consider that the salaries of the Bengali staff should, in no case, fall below Rs. 60 per mensem, and that the majority of the masters should receive salaries between Rs. 100 and Rs. 150 per mensem. Such a staff would cost approximately Rs. 50,000 per annum.

The school would be situated towards the back of the town within easy reach of the most populous part of Serampore. It would require property some 40 acres in extent in order to provide ample room for playing-fields, of which quite 8 or 10 would be needed. Besides the school building two hostels would be required immediately, one for Christian, and the other for Hindu, boys and, probably, two more would be needed very soon. We propose that each hostel should not be for more than 60 boys, and that the quarters of the European superintendents should be built on the hostels. Further financial and other details in connection with the school reorganisation are given in Appendix A.

The reorganisation of our school on the lines suggested above would carry with it of necessity vital changes in our work as a college. Our ordinary B.A. course would presumably extend over three years, the condition of entrance being a qualifying certificate either from a second grade college or from one of the reorganised schools having post-matriculation courses. Under such circumstances, we should seek to develop, in due course, into a college of some four or five hundred students (if the medical school referred to below be included, the number would probably rise to six or seven hundred), and include the following subjects in our curriculum :—

English.
Mathematics.
Sanskrit.
History (secular and ecclesiastical).
Bengali.
Economics.
Hebrew.
Syriac.
Philosophy.
Chemistry.
Physics.
Biology.
Classical and Hellenistic Greek.
Education.
History of religion.
Biblical studies.

Our idea would be to specialise, so far as the degree course is concerned, in three honours subjects, *viz* :—

English.
Philosophy.
Semitic languages.

A student desirious of reading for honours would take one of these three subjects and select two subsidiary subjects from the larger list. For a pass degree a student would be required to take four or five subjects, with certain limitations as to grouping. We should proceed to provide, in due time, M.A. courses in the following subjects :—

Philosophy & history of religion.
Education.
Semitic languages.

We consider that candidates wishing to proceed to the M.A. should first take the B.A. with honours.

The distinctive features of our work as a college, if we are enabled to carry through the above programme, would be somewhat as follows :—

(*a*) We should be largely residential and would seek to make the college a real training ground—intellectual, moral, and physical—thus furnishing an all-round preparation for life.

(*b*) On the academic side we should lay special stress on imparting a sound knowledge of English—theoretical and practical—and, for this purpose, would secure a

Serampore College, Serampore—*contd.*

strong English staff. We should hope especially to train men competent to be English teachers and headmasters of schools and, for this purpose, we desire to devote special attention to education as a subject.

(*c*) In view of the traditions of the college we could fittingly specialise in such subjects as Semitic languages, the philosophy and history of religion, Hellenistic Greek, etc., and so help to meet the special needs of Christian students from all parts of India desirous of studying on academic lines and in a scientific spirit subjects of special religious interest and importance.

(*d*) Among the subjects indicated above we have placed chemistry, physics, and biology, our idea being that an arts student who desires it may do something in science, while one who wishes to take up a course more definitely scientific may be allowed to do so. Moreover, we have in view the needs of those who wish to get a sound college educaton and, at the same time, make real headway with their preliminary medical studies. We may also say that in the ideals we entertain for the college we include the establishment of a complete medical faculty, if and when circumstances permit. We believe that Serampore is a thoroughly suitable place for a good hospital, and a medical school of some 150 to 200 students. The need for more medical men is becoming increasingly urgent, and hundreds of eligible students seeking to be admitted to the existing schools are turned away every year. In view of our traditions and ideals we feel that we could render true service to the Hooghly district, to Bengal, and to India by establishing and maintaining a well-equipped hospital and medical school in Serampore, and sending forth a goodly number of qualified medical men inspired by high ideals of social service. Believing as we do that the spirit of service for humanity has found its supreme expression in Jesus Christ we consider that a college such as ours can devote itself to nothing higher than doing truly efficient work on the lines here proposed, *viz.*, the training of men qualified to teach or to heal in the spirit that animated all the activities of Jesus Himself who regarded Himself as having been sent " not to be ministered unto, but to minister ".

The financial features of the scheme outlined above may be summarised as follows, more particular details being given in Appendix A.

I.—The collegiate school.

The *initial capital expenditure* on land, buildings (including two hostels), and equipment we estimate, approximately, at Rs. 8,20,000, with an *additional* Rs. 70,000 for a third hostel, when required.

The amount that would probably be necessary by way of *annual grant* to supplement receipts by fees, etc., is Rs. 48,000.

II.—The college.

Here the difference between the sum needed initially and what may be required to consummate the work of reorganisation is, naturally, far more considerable than in the case of the school; for, while the remodelling of the latter must be practically complete from the outset, it would be possible to defer the realisation of one or other of the features of the college scheme—in particular, the proposed medical school—until large funds are more easily available. Hence, we feel it desirable to set forth the probable cost of what may be regarded as a minimum scheme for the initial phase of college reorganisation, as well as the probable cost of the full scheme which we contemplate as our ultimate goal.

Initial requirements.

The *initial capital expenditure* on land, buildings, and equipment we estimate at, approximately, Rs. 8,00,000. This would allow for the accommodation of a total of about 250 students in residence while additional students whose homes are in the neighbourhood would be able to attend the classes daily. It would also provide quarters for additional professors, bringing up the number of those in close personal touch with the residential students to twelve.

Serampore College, Serampore—*contd.*

The *annual grant* (to supplement receipts by fees, etc.) necessary for the upkeep of the college on this basis we estimate at Rs. 1,50,000. This would cover the cost of the appointment of the additional professors referred to, together with additional lecturers, making the numbers twelve and twenty-one, respectively, and thus bringing up the strength of the instructive staff to thirty-three. Within these limits it would be possible to include in the curriculum the main features which we should regard as distinctive of our work on its new basis, except that the provision for medical training would be limted to the preliminary subjects which coincide with parts of the ordinary science course, *viz.*, chemistry, botany, and zoology (*See* Appendix B).

Ultimate requirements.

The estimates under this head are so calculated as to include those given above as sufficient for a smaller beginning.

The *capital expenditure* on land, buildings, and equipment necessary for the full scheme of reorganisation, as nearly as we can foresee at this present juncture, would amount to Rs. 32,00,000 of which total some Rs. 10,60,000 would be required for the medical school, with its hospital, special hostel, and general accommodation.

The *annual expenditure*, to be met from endowments or grants, we reckon as approximating to Rs. 5,00,000, including about Rs. 1,50,000 for the upkeep of the medical school.

APPENDIX A.

Showing approximate cost of the proposed reorganisation of the Serampore Collegiate School and College.

1. The Collegiate School.

A.—Capital (non-recurring) Expenditure.

	Rs.	A.	P.
Land, acquisition, clearing, etc., 40 acres	2,50,000	0	0
School-house, for 600 scholars	2,00,000	0	0
2 hostels, for 180 boarders and 3 European housemasters	2,10,000	0	0
Chapel	50,000	0	0
Gymnasium, swimming-bath, etc.	10,000	0	0
Workshop	5,000	0	0
Electric plant	45,000	0	0
Staff quarters and out-offices	50,000	0	0
	8,20,000	0	0
Additional hostel	70,000	0	0
	8,90,000	0	0

B.—Annual Budget.

Expenditure.

	Rs.	A.	P.
Staff of 30 teachers—			
3 European masters, at £450 per annum	20,250	0	0
2 English lady teachers, at £200 per annum	6,000	0	0
7 Indian masters, at Rs. 150 per mensem	12,600	0	0
6 „ „ „ 100 „	7,200	0	0
12 „ „ „ 60 „	8,640	0	0
Establishment—			
School clerk, darwan, malis, office requisites, etc.	3,600	0	0
Library	1,000	0	0
Laboratory upkeep	1,000	0	0
School requisites	1,500	0	0
Repairs	6,500	0	0
Grants to hostels for assistant superintendents	3,000	0	0
Scholarships	8,000	0	0
Provident fund for Indian staff	2,155	0	0
	81,445	0	0

Serampore College, Serampore—*contd.*

	Rs.	A.	P.
Receipts.			
Fees, averaging Rs. 3-8 per mensem.	25,200	0	0
Private sources for scholarships, etc.	8,245	0	0
Government grant	48,000	0	0
	81,445	0	0

2.—The college.

I.—Initial Requirements.

A.—Capital (non-recurring) expenditure.

	Rs.	Rs.	A.	P.
1. Land—				
(*a*) The transfer of the weaving school site to the college . . .	..	..		
(*b*) Rectification of south boundary of the weaving school and acquisition of a plot to south of existing laboratory for additional science block	..	60,000	0	0
2. Buildings, etc.—				
(*a*) New hostel to accommodate 150 students, with superintendents' quarters, common room, and out-offices	2,20,000			
(*b*) Staff quarters for 6 professors .	1,53,000			
(*c*) New science block and extension of existing laboratory . . .	60,000			
(*d*) College chapel	56,000			
(*e*) Additional lecture rooms . .	30,000			
(*f*) Gymnasium, fives courts, swimming bath, tennis courts, etc. .	15,000			
(*g*) Menial staff quarters . . .	16,000			
(*h*) Boundary walls, gates, roads, drainage, etc.	30,000			
(*i*) Electric plant	1,20,000			
		7,00,000	0	0
3. Equipment—				
(*a*) Hostel equipment	10,000			
(*b*) Science equipment . . .	20,000			
(*c*) Library	10,000	40,000	0	0
		8,00,000	0	0

B.—Annual Budget.

Expenditure.

	Rs.	Rs	A.	P.
(*a*) Staff :—				
12 Professors, at £450 *per annum* . .	81,000			
21 Lecturers, averaging Rs. 260 *per mensem, plus* provident fund .	69,000			
		1,50,000	0	0
(*b*) Establishment, office and contingencies .	..	10,000	0	0
(*c*) Rents and taxes	..	7,000	0	0
(*d*) Library	..	4,500	0	0
(*e*) Upkeep of laboratories . . .	..	3,000	0	0
(*f*) Common rooms	..	1,000	0	0
(*g*) Hot and cold-weather charges (including depreciation of electric plant) . .	..	16,000	0	0
(*h*) Miscellaneous—				
Senate expenses, prizes, games, etc. .	..	6,000	0	0
(*i*) Scholarships	..	15,000	0	0
(*j*) Hostel grants	..	3,000	0	0
(*k*) Repairs to property	..	10,000	0	0
(*l*) Equipment (renewals)	..	2,500	0	0
		2,28,000	0	0

Serampore College, Serampore—*contd.*

		Rs.	A.	P.
	Receipts.			
Admission and tuition fees		20,000	0	0
Contributions *per* the college council		58,000	0	0
Government grants		1,50,000	0	0
		2,28,000	0	0

II.—ULTIMATE REQUIREMENTS.

A.—Capital (non-recurring) expenditure.

1. Land—	Rs.			
(*a*) Transfer of the weaving school site	..	..		
(*b*) Rectification of south boundary of the weaving school and acquisition of land for additional science block, staff quarters, and playing-fields	2,50,000			
(*c*) Acquisition of land for the *medical school*	2,00,000	4,50,000	0	0
2. Buildings, etc.—				
(*a*) 2 Hostels to hold 300 students, with superintendents' quarters, common rooms, and out-offices	4,40,000			
(*b*) Staff quarters for 20 professors (Rs. 25,000 each, *plus* Rs. 10,000 for plumbing)	5,10,000			
(*c*) Quarters for Indian lecturers	3,50,000			
(*d*) Menial staff quarters	20,000			
(*e*) Boundary walls, gates, roads, drainage, etc.	80,000			
(*f*) Electric installation	2,00,000			
(*g*) College chapel	60,000			
(*h*) Septic tank and connections	50,000			
(*i*) *Medical School*—	Rs.			
(*i*) Hospital	2,00,000			
(*ii*) European staff quarters	2,00,000			
(*iii*) Indian staff quarters	1,80,000			
(*iv*) Hostel for 100 students	1,00,000			
(*v*) Electric plant	50,000			
(*vi*) Boundary walls, gates, roads, drainage, etc.	30,000	7,60,000	24,70,000	0 0
3. Equipment—				
(*a*) Hostel equipment	20,000			
(*b*) Science equipment	45,000			
(*c*) Library	75,000			
(*d*) *Medical equipment*	1,00,000	2,40,000	0	0
4. Contingencies	..	40,000	0	0
		32,00,000	0	0

Serampore College, Serampore—*contd.*

B.—ANNUAL BUDGET.

Expenditure.

(*a*) Staff—	Rs.			
25 Professors, at £450 *per annum*	1,68,750	Rs.	A.	P.
24 Lecturers, averaging Rs. 260 *per mensem, plus* provident fund	81,250	2,50,000	0	0
(*b*) Establishment, office, and contingencies		15,000	0	0
(*c*) Rents and taxes		10,000	0	0
(*d*) Library		5,000	0	0
(*e*) Upkeep of laboratories		5,000	0	0
(*f*) Common rooms		1,500	0	0
(*g*) Hot and cold-weather charges (including depreciation of electric plant)		21,500	0	0
(*h*) Miscellaneous—				
Senate expenses, prizes, games, travelling, etc.		8,000	0	0
(*i*) Scholarships		25,000	0	0
(*j*) Hostel grants		5,000	0	0
(*k*) Repairs to property		16,000	0	0
(*l*) Equipment renewals		5,000	0	0
(*m*) *Medical School*—				
(*i*) Staff—	Rs.			
8 Professors, at £450 *per annum*	54,000			
12 Lecturers, averaging Rs. 260 *per mensem, plus* provident fund	40,000			
	94,000			
(*ii*) Establishment—				
Nurses, dressers, orderlies, etc.	35,000			
(*iii*) Rents and taxes	5,000			
(*iv*) Renewals—medical, surgical, etc.	10,000			
(*v*) Hot and cold-weather charges (including depreciation of electric plant)	6,500			
(*vi*) Miscellaneous—				
Senate expenses (part), games, prizes, etc.	2,000			
(*vii*) Scholarships	3,000			
(*viii*) Hostel grant	1,000			
(*ix*) Repairs to property	8,500	1,65,000	0	0
		5,32,000	0	0

Receipts.

Fees	32,000	0	0
Endowments, grants, etc.	5,00,000	0	0
	5,32,000	0	0

Serampore College, Serampore—*contd.*

APPENDIX B.

Arrangements for lecturing with a *minimum* and a *full staff* are provisionally planned as follows:—

Minimum Staff.

Subjects.*	Professors.	Lecturers.
English	2	2
Philosophy	1	2
History of religion	1	1
History, secular and ecclesiastical	1	2
Education	1	2
Economics	1	1
Semitic languages	2	..
Sanskrit	..	2
Bengali	..	1
Greek	1	..
Theology and Biblical studies	1	..
Mathematics	..	2
Physics, Chemistry, Botany, Zoology	1	6
	12	21

* The ordinary teaching in English will be supplemented by special help given by other European members of the staff by means of essay-writing, etc.

Full Staff.

Subjects.	Professors.	Lecturers.
English	3	5
Philosophy	3	2
History of religion	2	1
History, secular and ecclesiastical	2	2
Education	2	1
Economics	2	1
Semitic languages	3	..
Sanskrit	1	2
Bengali	..	2
Greek	2	..
Theology and Biblical studies	2	..
Theology	1	..
Mathematics	1	2
Physics, Chemistry, Botany, Zoology	3	6
Final medical	6	12
	33	36

XVI. SPECIAL DEPARTMENTS OF STUDY.

General Memoranda.

ANNANDALE, Dr. N.

Present state of zoological research in India.

My personal knowledge of Indian science began in July 1904, when I assumed the post of deputy superintendent in the Indian Museum. At that time zoological research in this country was perhaps at the lowest ebb to which it has sunk in the last half-century. The first generation of zoologists who had worked in India was dead, the second had for the most part retired, while the third, very few in number had either given up zoological research or were on the point of leaving India. There was little prospect of a fourth generation and no Indian was engaged in zoological research. Now, after twelve years, the position is very different—mainly for three reasons, firstly because of the gradual development of work in the Indian Museum, secondly because of the appointment of professors of zoology (or in some cases of biology) trained in research, to colleges at the chief centres of education,, and, thirdly, on account of investigations made in direct connection with medicine, agriculture and forestry.

To realise what is now being done it will be necessary to arrange my statement either on a geographical or a departmental plan or in some system that will combine geography, official departments, and private enterprise. On the whole, it seems most convenient to adopt a geographical plan in the main, but to deal with the investigations of certain Government departments separately. I will, therefore, state in the first instance what progress has been made in colleges and through the agency of private societies and individuals in those Indian cities in which an interest is being shown in any branch of zoology, leaving the work of the Indian Medical Service, of the various agricultural institutions subordinate to the Government of India, to local Governments and Native States, and of a few other institutions and individuals, for separate consideration. The names of the cities are arranged in alphabetical order.

Agra.—Three professors of colleges at Agra have recently published papers on Indian zoology, namely, Dr. G. E. Nicholls, late of the Agra College (who, I understand, has now left India), Mr. Karm Narayan, M.Sc. of St. John's College and Dr. R. H. Whitehouse of the Agra College. The first of them has issued in the *Proceedings of the Zoological Society of London* for the year 1915 an interesting account of the anatomy of the Indian bull-frog, while Mr. Karm Narayan has published notes on ant-like spiders in the *Records of the Indian Museum.* His researches were carried out partly at Agra and partly in the laboratories of the Indian Museum. Dr. Whitehouse has published descriptions of Indian land and fresh-water planarians, but most of the work was completed before he came to India. At the third Indian Science Congress he read a paper on the blood-cells of certain fishes.

Allahabad.—Three professors of biology who have been, each in his own line, a keen promoter of zoological research among his Indian pupils, have been appointed in succession to the Muir Central College in the last ten years. I refer to Mr. F. M. Howlett, now Imperial pathological entomologist, Dr. A. D. Imms, afterwards Imperial forest zoologist and now lecturer on economic entomology in the University of Manchester, and the present professor, Dr. W. N. F. Woodland. I need only refer here to the work of the last, which, both in respect of his own researches and of those of his pupils, has been of a more morphological nature than most of the biological research undertaken in India.

Dr. W. N. F. Woodland has published in the *Quarterly Journal of Microscopical Science* (London) an important morphological paper on the mantis shrimp since coming to India, but the work was mostly done in England. At the third meeting of the Indian Science Congress he read an elaborate paper on the "Renal-Portal System" in vertebrates. His pupil, Professor D. R. Bhattacharya of the same college, read at the same meeting what promises to be an important memoir on the morphology of fishes. The same author has also in the Press an account of the younger stages of certain fish from

the Chilka lake, his work on which was done partly at Allahabad and partly in the Indian Museum. It will be published in the *Memoirs of the Indian Museum.*

Bangalore.—Mr. C. R. Narayan Rao of the Central College, Bangalore, has published in the last two years notes on the metamorphoses of the South Indian frogs and toads. They have appeared in the *Records of the Indian Museum.*

Bombay.—Bombay holds a most honourable place in the history of Indian zoology on account of the work of the Bombay Natural History Society, which is probably the most successful society of the kind that has ever flourished in Asia. Indeed, Captain S. S. Flower, Director of the Egyptian Zoological Service, in a recent official report has referred to the rooms of this society as "the zoological centre of the Indian Empire." In order to understand this statement it must be realised that Captain Flower is writing as the director of a zoological garden and not as one interested in the more technical side of zoological research. The main value of the work of the Bombay society lies not in investigations carried out at its headquarters or even in the individual researches of its members, but rather in the organisation that it has displayed in encouraging the amateur in India and in placing him in communication with specialists in Europe, whose work is published in the society's journal in a most sumptuous style.

The chief feature of the zoological work of the Bombay Natural History Society of quite recent years has been its survey of the mammals of India, which has been subsidised by the Government of India and several of the local Governments. The society has engaged expert collectors who have visited many parts of the Indian Empire, and has arranged for the classification and description of the specimens they obtain by specialists connected with the British Museum. The survey should prove of great value both to taxonomy and to zoogeography; from a purely Indian point of view there are two defects inherent in it. In the first place, the type specimens will be retained in London and will not be available for workers in India, as the British Museum declines to lend out type specimens on any consideration, and, secondly, by far the greater part of the scientific work is not being done in this country. A preliminary sorting of the specimens, which, of course, implies a considerable knowledge of taxonomy on the part of the society's curator (Mr. N. B. Kinnear), is all that is attempted in Bombay. It is only fair to say that, in the present state of zoology in India, these defects appear to be inevitable, for except Mr. Kinnear, who, I understand, is very fully occupied with other work, there is no specialist on the mammals at present in this country, and it is improbable that specialists in London would have agreed to work out the collections unless they had been allowed to retain the types.

Among the members of the Bombay society who have contributed papers to its journals recently the names of Mr. E. C. Stuart Baker, late of the Indian Police, a leading authority on Indian birds, Dr. Powell, who has described the anatomy of an Indian spiny lobster in some detail, the Revd. Father J. Assmuth, S. J., who has written on Indian wood-destroying white-ants, and Lieutenant-Colonel F. Wall, whose papers on snakes are well known, may be mentioned particularly. Father Assmuth has also published abroad a most detailed and valuable description of the anatomy and histology of a curious wingless fly that lives in termite's nests. His researches were carried out in St. Xavier's College, Bombay, while Dr. Powell has worked in the Bombay Medical College, for the use of the students of which he has published a small text-book based largely on his own observations.

Calcutta.—In this section I do not propose to discuss the work of the Indian Museum which will be considered separately.

The only college in the city in which serious zoological research has been undertaken in recent years is the Calcutta Medical College.

Major R. E. Lloyed, professor of biology in this college, has published three books depending more or less directly on his own zoological investigations. The first of these is a text-book for Indian students, the second a series of essays on variation and heredity, while the third verges on the theological, but is written from the point of view of a biologist.

In the same college Dr. Ekendra Nath Ghosh, assistant professor, has done some valuable work on the anatomy of mollusca, which he has published mainly in the *Records of the Indian Museum.*

ANNANDALE, Dr. N.—*contd.*

The scientific work of the Bengal Fishery Department under Mr. T. Southwell may also be mentioned here. Much information has been obtained on the life histories of several Indian fish and pamphlets have been published on the fisheries for fresh-water turtles and terrapins and for shells used in the manufacture of buttons in the province. These pamphlets are primarily of economic importance, but contain interesting zoological information. Mr. Southwell has also contributed to the *Records of the Indian Museum* a valuable series of papers on fish-parasites in India and Ceylon and on the cestoda or tapeworms of both fish and other animals.

Lahore.—It is perhaps in Lahore, thanks to the enthusiasm and skill of Lieutenant-Colonel J. Stephenson, principal and professor of biology in the Government College, that the most promising collegiate school of indigenous India, zoology at present flourishes. Colonel Stephenson's own work on the anatomy, taxonomy, and geographical distribution of the Indian earthworms and their allies published partly in the *Records* and *Memoirs of the Indian Museum* and partly in the *Transactions of the Royal Society of Edinburgh* is of great importance, but perhaps even more important is the keenness in zoological research that he has inspired among his Indian pupils.

The most elaborate work as yet completed by any of these gentlemen is an account of the plant-lice of Lahore submitted as a thesis for the doctorate of science in the Punjab University by the late Mr. Bashambar Das who, unfortunately, died before the memoir had been fully prepared for publication. It is to be hoped that it will be issued at any rate in part, before very long. Mr. Baini Pershad, Patiala research scholar in the college, has published important investigations on the external anatomy of mosquitoes and interesting notes on the tortoises and earthworms of the Punjab and the pond fauna of the same province, while Mr. B. L. Bhatia, assistant professor, has prepared several notes on the potozoa of Lahore.

Madras.—There are at present two centres of zoological work in the city of Madras, *viz.*, the Government Museum and the Presidency College.

The former, with its extremely limited staff, was until recently known as a centre of ethnological research, under the superintendentship of Mr. Edgar Thurston. The appointment of a zoologist as his successor—Dr. J. R. Henderson, formerly professor of zoology in the Madras Christian College—has recently given zoological work a new impetus. Dr. Henderson's own recent papers, which have been published in the *Records of the Indian Museum*, valuable as they are, have, unfortunately, been few and short as compared with the work he produced in England in former years, but he has been most mindful, both in his present and his former post, of the importance of encouraging his Indian assistants to observe for themselves. Several of them have published short notes in various branches of zoology, while Mr. Sundara Raj, who has now been transferred to the local fishery department, has prepared, while working in the museum, a valuable account of the habits and life-histories of the fresh-water fishes of Madras partly compiled from the work of others, but also, to a large extent, founded on original observations.

In the Presidency College, Madras, Professor K. Rammuni Menon, who while a student in England many years ago assisted his tutor in anatomical work on certain marine worms of great interest, has in preparation for a considerable time a series of observations on the development and metamorphoses of certain sea-anemones and other marine forms, which he has been remarkably successful in rearing in his laboratory. A few short notes in the *Records of the Indian Museum* form practically all that he has published in this direction, but an interesting general account of his investigations was read by him at the second meeting of the Indian Science Congress.

Nagpur.—The Nagpur Museum, for many years in a somewhat stagnant condition, has received fresh life recently so far as zoology is concerned, largely owing to the appointment of Mr. A. D'Abreu, formerly a school master at Kurseong, as assistant curator. Since assuming this post, Mr. D'Abreu has issued with the financial help of the Government of Bengal, a useful little hand-book on the beetles of the Himalayas, primarily for the instruction of schoolboys in the Darjeeling district.

Tuticorin.—Tuticorin is the headquarters of the investigations into the chank-shell and pearl fisheries of the neighbourhood carried out under the local Government by Mr. J. Hornell, who is now publishing in the *Memoirs of the Indian Museum* a very elaborate and scientific account of the different races of chank-shell found in the Palk

ANNANDALE, Dr. N.—*contd.*

Straits and in the Gulf of Manaar. He has also published recently several pamphlets of a more economic nature on oyster culture and the like, as well as editing and contributing largely to a special series of memoirs on the marine zoology of Okhamandal, published at the expense of His Highness the Gaekwar of Baroda. This series is still in course of publication.

Quetta.—A natural history society was started in Quetta some years ago by Sir Henry McMahon and was affiliated to the Bombay Natural History Society. At the same time, the local museum was also founded and placed under the curatorship of Mr. J. W. W. Cumming. The society has done good work in interesting people in the fauna of Baluchistan and considerable energy has been displayed in sending specimens for determination to specialists in India and abroad and thus providing material for research.

Zoological research connected with agriculture and forestry.—It is unnecessary for me to deal at any great length with the valuable and important entomological work connected directly or indirectly with agriculture and forestry and recently carried out by the officers of the Imperial Agricultural Research Institute at Pusa, the Imperial forest zoologist at Dehra Dun, the Madras Government entomologist at Coimbatore, and the Mysore State entomologist at Bangalore. Elaborate annual reports are issued by all the officers, whose work is also reviewed departmentally from time to time. Moreover, a concise account of what has been accomplished in the direction of economic entomology in the Indian Empire has just been published by Dr. C. Gordon Hewitt, Dominion entomologist, Ottawa, Canada, in the *Annals of the Entomological Society of America*. The view of a zoologist employed in similar work in another part of the British Empire and, consequently, free from all official prejudice, is particularly valuable in a matter of the kind. The points particularly noted by Dr. Hewitt are as follows:—

(*a*) Mr. Maxwell Lefroy's work on Eri silk.
(*b*) The measures taken against certain caterpillars destructive to grasslands.
(*c*) Control of the rice grasshopper.
(*d*) That of the boll-worm in cotton.
(*e*) Researches connected with insect-borne diseases.

All that is necessary for me to mention in addition is the valuable series of life-histories worked out at the various centres, in particular at Pusa and Bangalore, and the two important text-books on entomology published respectively by Mr. Maxwell Lefroy, who deals with the whole of India, and by Mr. T. Bainbrigge Fletcher, who describes particularly the insects of economic importance in the Madras Presidency.

Zoological work of the Indian Medical Service.—In the old days, before the various sciences had become specialised, most of the zoologists in India were members either of the Indian Medical Service or of the Geological Survey of India. Of recent years, however, medical zoology has, unfortunately, come to be regarded as rather a thing apart, concerned solely with certain blood-sucking insects known to transmit disease and with protozoa parasitic in man. Less attention has naturally been paid by doctors to the larger, but medically less important, internal parasites, though they have been by no means neglected by zoologists. What I have said of agricultural and forest entomology applies also to medical entomology, the chief Indian worker on which for some years past has been Major S. R. Christophers, who has specialised in the taxonomy, structure, and habits of Indian mosquitoes. Captains W. S. Patton and F. W. Cragg have also published an important text-book on medical zoology, as well as interesting life-histories and anatomical descriptions, mostly in the *Indian Journal of Medical Research*. The foundation of this journal and the inauguration of the special committee placed in charge of medical research in India have given a new impetus to work of the kind, while the appointment of a trained zoologist (Mr. P. R. Awati), not a medical man, to assist, is evidence of a lack of prejudice that has not always been exemplified in "medical zoology". Mr. Awati has already justified his appointment by his interesting preliminary account of the genitalia of different genera offices.

It is impossible here to refer to all the work on protozoan blood-parasites and other parasitic forms of the same great group undertaken recently by members of the Indian

ANNANDALE, Dr. N.—*contd.*

Medical Service. Numerous papers of a more or less zoological kind will be found in the *Indian Medical Gazette*, the *Journal of Indian Medical Research*, and, elsewhere, Sir Leonard Rogers's exceptionally important account of the parasite of Kala-azar, in the *Quarterly Journal of Microscopical Science* (London).

The most compendious investigations on helminth parasites of man and animals undertaken by any member of the Indian Medical Service recently have been those on the nematoda published by Major Clayton Lane, in the *Journal of Indian Medical Research* They are mainly of a taxonomic nature. Captain F. H. Stewart, of the same service has, however, published several papers of considerable anatomical interest on these groups which he regards from a more zoological point of view. They are still appearing in the *Records of the Indian Museum*, for Captain Stewart, though now stationed at Hong-Kong, is investigating the internal parasites of Indian troops quartered there.

Zoological research in the Indian Museum.—I will be very brief in dealing with the zoological work of the Indian Museum as I propose in my first annual report as director of the Zoological Survey of India to give a *résumé* of what has been accomplished within the last ten years. At present, it is necessary for the scientific staff, limited as it is in number, to devote its attention to a comparatively small number of groups of animals and we can do very little as regards the higher vertebrates. The groups to which special attention is at present being given are the fish, the beetles, the spiders, the decapod crustacea (shrimps, lobsters, crabs, etc.), and the sponges. The most important work actually in hand is a faunistic survey of the Chilka lake in Orissa and Ganjam, with which we are correlating, so far as possible, studies of the esturine and brackish-water fauna of other parts of India and Eastern Asia. We hope also to take in hand shortly similar studies of a small number of carefully selected lakes in different parts of the Indian Empire.

At the same time, monographs are being prepared on different families of the groups already mentioned.

As all the members of the scientific staff are working together for a common end it is unnecessary to mention them individually, but I cannot pass over in silence one worker who, though not a regular member of the staff, has collaborated with us now for several years. I refer to Mr. E. Brunetti who, often in circumstances by no means convenient to him has devoted a very large part of his time to the systematic study of Indian diptera and has produced not only a series of excellent papers in the *Records of the Indian Museum* but also a large and important volume in the *Fauna of British India* published in London under the authority of the Secretary of State.

Publication of results.—From the foregoing statements it will be clear that most of the zoological research now being undertaken in India is being published in this country, either in the official publications of different Government departments, in the *Journal of the Bombay Natural History Society*, in that of the Asiatic Society of Bengal or in special memoirs. There is still a feeling, however, that work published in India does not receive full credit abroad. I think myself that this feeling is a mistaken one and that the prejudice on which it was originally founded is now rapidly disappearing; I feel that we are fully justified in claiming that the zoological publications of the Indian Museum have played a great part in dispelling it; but, with an increased output of work from the officers attached to the Zoological Survey of India, it is becoming difficult to cope with the papers that are now being received from workers in this country totally unconnected with the survey. Most of the papers published by the Bombay Natural History Society deal with animals of the more conspicuous kinds and their journal, being edited by men who have not received a technical training as zoologists and supported by amateurs, is hardly suited for papers of a more technical sort. The *Journal* and *Memoirs of the Asiatic Society of Bengal*, after a period of quiescence so far as zoology is concerned, are beginning to include papers of considerable faunistic and biological interest. One series, dealing with the results of my own investigations at the lake of Tiberias, in Palestine, has just been completed. It contains papers by several distinguished zoologists in Great Britain and other parts of Europe as well as work done in India. A second series is just about to commence in the Memoirs of the Society. It will deal with the results of my recent tour in the Far East.

ANNANDALE, Dr. N.—*contd.*

Chief needs of zoological research in India.—Zoologists stationed in India outside Calcutta and Madras often complain that they are unable to continue the work they began as lecturers or students in Great Britain. The reasons for their complaints are mainly:—

(*a*) the lack of zoological literature;
(*b*) the multiplicity of their purely official duties; and
(*c*) the lack of a scientific atmosphere.

What precisely is meant by a scientific atmosphere I am not at all sure, for it seems to me that it is one of the first duties of a professor in any branch of science to create a scientific atmosphere among his pupils. I have heard this compliant made most often by members of the Educational Service and I must confess that in most cases it seemed to me little more than a confession of failure on the part of the officer who made it. It is, of course, however, most advantageous for men engaged in the different branches of science to meet one another from time to time and to discuss their work. The Indian Science Congress, if it continues to advance as it already has done, should do much to obviate any legitimate complaints in this direction.

Purely routine work is, as everyone acknowledges, elaborated to an excessive degree in India and this is perhaps more noticeable in scientific departments, whether of colleges or of Government, than in purely administrative offices, simply because it is more alien to the important work actually in progress. The remedy, however, is to be sought, it seems to me, in the personal initiative of the principal officers concerned.

The lack of libraries is the most tangible complaint made by scientific men in India. So far as zoology is concerned I think that here again there has been a certain amount of exaggeration and that the lack of access to literature has often been an excuse rather than a justification for not doing original work. It is, of course, very hard for a European professor, who has been accustomed to work in an English laboratory with numerous colleagues and with access to fine libraries, to accustom himself to Indian conditions, and it is perhaps still more difficult for an Indian student who has begun his studies under the immediate eye of a professor in England to set to work again on his return to his native country when he finds that his professor or colleague is absorbed in routine work and frankly claims that research in India is impossible.

In a country like India, where the fauna, so far as many interesting groups are concerned, is still practically unknown, there is much that can be done with a very limited supply of books and periodicals. In Lahore Colonel Stephenson has not found it impossible to accumulate most of the literature necessary for the study of the Indian earthworms. When his own library has been lacking we have usually been able to help him in Calcutta. In Calcutta and Madras there are zoological libraries that would rank as of first-class importance in any country in the world. Personally, I have worked in four university towns in Great Britain, namely Edinburgh, Oxford, Cambridge, and Liverpool, and my experience is that there are fewer zoological works that cannot be consulted in Calcutta than in any of these centres. All zoologists engaged in long continued zoological research in Great Britain have to visit London occasionally to look up literature. The one difficulty in this country is the great distance apart of the different centres, but I believe that if a library equal to the Connemara Library in Madras in respect to zoological periodicals could be founded in each of the Indian provinces, zoologists in India would be just as well off in this respect as they are in any part of the British Empire.

One thing that would, I believe, do a great deal to encourage research in this country would be the foundation of a marine laboratory at which duly qualified Indian students could study, with qualified instructors, in their vacations and at other times, and which could supply well-preserved material to colleges and other scientific institutions throughout the Indian Empire. Such an institution could be founded and kept going in connection with the Zoological Survey of India at a comparatively small cost, and the Andaman Islands both from a scientific and a financial point of view, afford a site of an unsurpassed nature. A marine fauna is in most particulars by far the most suitable to give a student an interest in biology, and the material it affords is beyond all others in its value as illustrating biological problems. Just now is not the time to lay before the Government of India proposals for fresh expenditure, but I will be glad to submit definite recommendations on this point as soon as it may seem convenient to the Education Department.

ANNANDALE, Dr. N.—*contd.*

The following is an outline of a scheme for the appointment of research assistants in the Zoological Survey of India .—

A small number of temporary research assistants should be attached to the Zoological Survey of India, perhaps two at first.

These men should act as personal assistants to gazetted officers who, in the opinion of the head of the department, were specially qualified to train them to undertake responsible research on their own account.

It should be clearly explained to the assistants that, though they were to be "trained in research", their duties would primarily be those of a personal assistant.

The appointments should ordinarily be for two years but, in exceptional cases, might be extended for one year on the recommendation of the Director of the Zoological Survey. In no case would an appointment be extended for more than three years.

The assistants should be given an "allowance"—I would prefer not to call it a salary—of Rs. 150 per month for the first year and Rs. 200 per month for the second year. If the appointment were extended to a third year the incumbent would receive Rs. 300 a month.

The assistants should receive while on tour with the officers whom they were assisting second-class travelling allowances and Rs. 3 a day halting allowance.

The Director of the Zoological Survey of India should submit to the Education Department every six months a report on the conduct and work of the assistants, stating not only what they were doing, how they were progressing and behaving, but also whether they exhibited any powers of initiative or originality. Each man's report should be shown to him before despatch to Government and he should be allowed to add any comments he thought fit. If more than one bad report were received the assistant would lose his post.

The appointments should be made by the Director of the Zoological Survey of India, if necessary with the approval of the Government of India. The director would be guided in his selection of candidates by his personal knowledge of the work the candidates had done, or were doing, and by the personal opinion of professors, or other responsible investigators under whom they were working. Appointments would only be given to men who had already commenced or completed original research.

I lay stress on the men being appointed as assistants for I think that in this capacity they would learn more than if they were merely regarded as students and, moreover, the fact that they would have to work for their allowance otherwise than by mere study would, I think, be salutary.

The question of good, even generous, travelling and halting allowances is, I think, most important. Assistants travelling with a superior officer have to spend very nearly as much as he has to spend himself, and instruction in the field, which is perhaps more important in zoology than any other, can be given much more satisfactorily if the assistant is living so far as possible in the same style as his superior officer. We would, of course, have to insist that the assistants made use of their allowances for the purpose for which they were granted.

There is one further question that is sure to arise; it is the future prospects of men who had acted as temporary research assistants in the survey. Colonel Stephenson of Lahore, whose opinion in matters of the kind is rendered particularly valuable by his success in encouraging zoological research among his students, tells me that his men have no difficulty in obtaining educational posts, but the question of educational posts is not one on which I am in a position to express a personal opinion. The Deputy Director of Fisheries, Bengal, who is an honorary assistant in the Indian Museum, tells me that he cannot get suitable men for his department owing to lack of zoological knowledge on the part of all candidates, while the Imperial entomologist at Pusa says that the only men he can obtain for zoological work are incapable of working except under supervision. The whole object of our scheme would be to train men for responsible research on their own account. I could not undertake to arrange anything of the

nature of an employment bureau for zoological students, but I take it that if the Government of India would accept a scheme on the lines I have suggested they would be prepared to rely very largely on my opinion of the men selected and would provide the local Governments with information based thereon.

I put forward this scheme in anticipation of a considerable extension of zoological work in India If things go as I wish them to go it should be possible to absorb any students who have proved themselves suitable into the Zoological Survey in some capacity or another.

BHANDARKAR, D. R.

Development of research work in orientalia in the Calcutta University.

The systematic and serious study of the ancient history of India has not yet begun. It is true that some branches of this study are already being pursued by scholars and antiquarians, but there are a great many which have yet to be opened out. The study, *e.g.*, of the social, administrative, or economic history of India or of Brahmanical and Jaina iconography has scarcely yet been started. Again, in many of the branches that are already being studied only spade-work has been done. If we take, *e.g.*, the ancient philosophy of India, every scholar will be compelled to admit that we have yet to learn a great deal about the various systems that were once prevalent, and that several years of uninterrupted scholarly study must elapse before it is possible to write out a history of the rise and development of the ancient Indian philosophy.

It is, again, a great pity that not even sufficient encouragement to the study of this subject has been given by Government though they have been intending doing so for the last seven years. I am aware that Government have already established the Archæological Department, which, it must be admitted, has done useful work. But this useful work mostly consists not of any sustained research work, so much as of the discovery and collection of materials on which the research work must be based. The history of the ancient architecture of India, for example, was first written by Fergusson, who was not an officer of the Archæological Department. It is true that the book was revised by the late Dr. Burgess, who was director-general of archæology, but he did so long after he ceased to have any connection with that department. The work of editing the volume of the Asoka inscriptions had shortly before the war been entrusted to a German professor and that of the Indo-Scythian epigraphs to another German professor, and not to any member of the Archæological Department. Of course, the archæological officers are in no way to blame. Their department has been undermanned and, consequently, most of their time is taken up by the administrative work of their circles and the conservation of ancient monuments to which more attention has, naturally, to be devoted than to research work.

We constantly speak of fostering the spirit of research work amongst Indian students, but forget that orientalia are just the subjects which can appeal to them most and which they can, therefore, take up and pursue with alacrity and enthusiasm. But genuine and warm interest in research work amongst Indian students can be created and sustained by a university only, and not by any Government department. I know what great work can be done by such an institution in respect of oriental studies. The Calcutta University had so long provided facilities only for teaching one or two branches of ancient Indian history. But even this little has produced many wonderful results. It has not only popularised the subject in the whole of Bengal, but stimulated the spirit of research also. The assistant professors and lecturers have not only kept their knowledge abreast of the times, but have already done some research work. I cannot, therefore, help thinking that the new higher course in ancient Indian history which the history board, at the suggestion of its president, has recently introduced into the M.A. history, will disseminate more advanced knowledge of the subject among the people in general and stimulate much greater research work in this sphere in the teaching staff in particular. But even this, I am sorry, will not be enough. More systematic efforts must be made towards the development of original work not only in

the fields already opened, but also in those yet unexplored. And this object can be realised only if new chairs, lectureships, scholarships, and so forth are created. And this is not possible unless Government can make liberal grants of money explicitly for this purpose.

Personally, I do not think it will be a difficult matter to induce Government to give liberal financial aid to the Calcutta University to enable it to realise the object adverted to above. For a long time past the attention of the Government of India had been drawn to the desirability, nay, the necessity, of the cultivation of oriental studies, both for educational progress and social development of India. A conference of orientalists was, accordingly, held at Simla in July, 1911. As the outcome of their deliberations it was resolved to start oriental research institutes somewhat on the lines of the schools at Hanoi and Vladivostok. When the scheme was discussed at the conference it was understood that Calcutta would be the proper place for a central institute not because it was then the seat of the Government of India, but because in the University, the Museum, the Asiatic Society of Bengal, and the Sanskrit College were to be found materials which would make such an institution a real success. But with the change of capital the Government of India seem to have suddenly conceived the idea of founding the Central Research Institute not at Calcutta, but at Delhi. I do not know whether this has received the approval of the Secretary of State for India or when Government intend starting it. It appears that the scheme has been held in abeyance on account of the financial stringency caused by the war. If Government had thought of establishing the Central Institute at Calcutta the scheme probably would not have proved to be a financial burden and could have been started long ago. For in Delhi they would have had to create an entirely new museum, whereas we had in Calcutta what is still the best archæological museum of India. And to found in Delhi a museum which would equal that of Calcutta in a short time was a work of prohibitively heavy expense. In Delhi, again, they would have had to start a practically new library. I hear that the library of the Director-General of Archæology was to be brought into requisition. But this library could not possibly be compared to the stupendously large collection of rare and valuable books contained in the three excellent libraries of Calcutta, *viz.*, the University Library, the Imperial Library, and the Asiatic Society's Library. And to provide in Delhi the library facilities obtainable in Calcutta meant again a huge outlay of money. Moreover, in Delhi there was no collection of ancient manuscripts which no research institute could afford to be without, and such a collection, again, was not possible without large grants of money. The Bengal Asiatic Society of Calcutta, on the other hand, possessed by far the largest and richest store of manuscripts in the whole of India or Europe. If the Government of India had intended founding the Central Research Institute in Calcutta they would have saved heavy expenditure on account of museum, library, and manuscripts collection and would, therefore, have been in a position to start it long ago. For all they should have done in Calcutta was the mere endowment of the necessary chairs, lectureships, scholarships, and so forth, which would not have cost them much. Again, it is very doubtful whether a research institute at Delhi will be a success because Delhi has long since ceased to be a centre of learning. On the other hand, Calcutta is already an established seat of oriental studies where the student can frequently come in contact with many of India's greatest oriental scholars. The value of such an atmosphere of interest in learning to the serious student can scarcely be overestimated. Besides, the study of ancient Indian history and culture has already been popularised by the Calcutta University and, as an outsider, I can safely say that nowhere in India is this study so enthusiastically and scientifically pursued as in Calcutta. I am, therefore, strongly of opinion that it is only here that an oriental research institute can be expected to be a success. Every endeavour should be made to persuade the Government of India to establish the central institute at Calcutta but, if this is not possible, they should be induced to open a branch institute at least in Calcutta which also, I hear, they had in contemplation. Even if a branch institute is founded here it will go a long way. It is the Calcutta University which has made the subject of ancient Indian history and culture so popular and progressive in Bengal, and it is only they that, with their experience of so many years, can be expected to guide a central, or branch research, institute in the right direction. I, therefore, submit, for the kind consideration of the University Commis-

sion, the following proposals for the endowment of the necessary chairs, lectureships, and scholarships in order that they may be added to the Calcutta University staff :—

To begin with the number of professors should be five for the following subjects :—

(*a*) Ancient Indian history and culture.
(*b*) Indian philosophy and religion.
(*c*) Vedic language, literature, and culture.
(*d*) Pali language, literature, and culture.
(*e*) Anthropology for India.

The above chairs have been given in the order of their relative importance.

Every professor should receive a monthly salary of Rs. 1,000—50—1,200, *plus* house rent.

Every professor should be given from two to three assistants and five instructors. The salary of the assistant professor should be Rs. 400—25—600 and that of the instructor Rs. 250—25—400 per month. Three scholarships for research purposes, and of the value of Rs. 100 a month, should be attached to each chair.

There ought to be every sort of co-ordination between the Calcutta University and the Archæological Department. The latter, as I have stated at the beginning, has collected a mass of useful materials which are invaluable for research work, and which should be made accessible to the Calcutta University. Again, most of these monographs and volumes, which are issued at the expense of the Archæological Survey and which are not taken up by its officers, should, so far as possible be entrusted for publication to the members of the ancient Indian history teaching staff of the Calcutta University. It was, indeed, a very wise move on the part of the Director General of Archæology to have put me in charge of the archæological section of the Indian Museum. This certainly enables me to afford all museum facilities to the students and lecturers of the University. It will, therefore, not be too much to hope that the co-ordination of the kind asked for will be readily agreed to by him.

One or two points only I may now touch upon here. It is of great importance that, in many cases, the professor and his assistants should have first-hand acquaintance with the ancient monuments, inscriptions, manuscripts, and so forth. But this is possible only if they are allowed, from time to time, to go out on tour and visit the various sites, libraries and museums. Not infrequently a direct examination of the originals is more valuable than of their reproductions.

I have also to say a word or two in regard to the Indian Museum, Calcutta. It was so long regarded as the premier museum of India and should continue to be so looked upon. All the originals should, so far as possible, be secured for this museum and, where this is not possible, good casts and reproductions of all important monuments should be stored and made accessible to the students. I may point out that of all the inscribed records of ancient India those of Asoka are the most important but, unfortunately no estampages of these epigraphs exist in the museum at present.

MITRA, KHAGENDRA N.

Requirements of experimental psychology.

The Department of Experimental Psychology, as organised by our University, embraces the study of the following subjects :—

(*a*) Physiological psychology.
(*b*) Abnormal psychology.
(*c*) Child psychology.
(*d*) Animal psychology.
(*e*) Race and folk psychology.

As physics and chemistry cannot be studied without well-equipped laboratories it is also impossible to study all those branches of knowledge indicated above without

experimentation and observation. The University should, accordingly, appreciate the scope of the Department of Experimental Psychology. The following arrangements are n cessary to give an up-to-date foundation to all its branches:—

(i) More space to be used as lecture rooms and laboratories.
(ii) Animal house and biological museum to be created to facilitate the study of animal psychology.
(iii) A larger sum to be apportioned for the purchase of books and apparatus.

MUKERJEE, RADHAKAMAL.

Methods to be followed in the study of the sociological and humanistic sciences in a modern Indian university.

The watchward of a modern university in India should be a new, extended, and corrected historico-comparative method in the study of the humanistic and sociological sciences. In the so-called genetic and comparative studies in the West the human and social experiments of the Asiatic peoples have been misconceived and misinterpreted. In the crude imitations of the old English universities that we have here students and professors alike deal exclusively with the judgments of value and validity of the Western civilisation which, to them, as well as to the University, represent the "scientific" and final judgments of man and his varied experiments in art, or religion, or social arrangement and construction. The Western social and humanistic sciences and the second hand products of these in the Indian universities can give only partial and intermediate generalisations because they are based on an insufficient analysis and an incomplete collection and classification of data. A new Indian university ought to extend the history of culture—philosophical, scientific, and artistic—by pointing out the contributions of India to the growth and development of civilisation, and build anew the sociological and humanistic sciences by collecting and comparing the intermediate and provisional generalisations derived from the study of both western and eastern facts and norms. In different field—philosophy, art, economics, sociology universal generalisations will then be reached which will subsume the intermediate principles and formulæ of limited scope and validity, applicable to particular cultural regions and regional cultures. From the broad and general principles of universal scope and validity it would be possible to descend again, by the deductive method, to the concrete domain of particulars and limiting conditions and formulate experiments adapted to the needs and opportunities of particular cultures and regions for reconstruction and progress. But this work is not possible unless the faculties and academics which are still being produced under the hasty and superficial judgments which Macaulay pronounced on the methods and policy of Indian education are completely reorganised and reconstituted. If this work can be done, it will for ever render impossible the narrow sectional view of human history which ignores the lives and life-values, the experience and the wisdom of the Asiatic races and which, in India, turns these humanities and social sciences into barren abstractions which have shunned the actual facts and conditions of Indian life as irrelevant or disturbing factors. For the West it will make it possible to utilise the communal and synthetic genius of the Indian civilisation for the coming social reconstruction in the West and for India it will rescue us from the evils of commercialism, industrialism, officialism, clericalism and the tyranny of examination alike in the new education which will train individuals by social studies and social action.

In my opening extension lecture at this University, in which I endeavoured to formulate the scheme of a new and independent school of Indian economics, I pointed out the fundamental differences between Eastern and Western social structures in the following words:—

> "Both industrial and political constitution which has developed in the West has shown remarkable mechanical efficiency under the monistic theory of social grouping under dominating central organs such as the militaristic or capitalistic types of organisation. But the principle of social grouping which has produced the centralised organisation of trusts and cartels, socialistic States and Germanic empires for exploitation has also exhibited explosive and devastating forces

MUKERJEE, RADHAKAMAL—*contd.*

in the form of supermen and anarchs dominating to their advantage every field of industry, social, and political life.

And now there arises as an imperative need a new pluralistic principle of social grouping based not on the dominance *ab extra* of a centralised power which separates itself as an individual entity from the subordinate social organisations and uses them for its own advantage, but on the recognition of the divine right of the original and primary constituent bodies and individuals to find their satisfaction through concerted action, and this can only be promoted if the central organ has for its only objective the co-ordination and correlation of these elemental bodies and no particularist interests of its own to promote.

"In the East, in social, political, and industrial organisation, the principle of social grouping has recognised the free and independent interests of the constituent primary bodies resulting not in the concentration of power in a central organ, but in a decentralised polity, and the diffusion of industry, of wealth, of population, and of social functions and activities. Thus the life of the social organism has not been sacrificed to the soul-killing ideal of mere mechanical and administrative efficiency. This principle of social organisation has created multiple communal groups for the development of individual personality and not one vast machine called the State or the industrial system in which the individual is perpetually liable to be reduced to a mere automaton. The East does not rear the fabric of an omnipotent State or a socialistic democracy, but develops intermediate social groups like the family as the unit in economic life, the guilds and castes as industrial groups, the *Varnas* and *Asrams* as ethico-religious groupings, the *panchayats*, the village communities and the five assemblies in political composition. In religion India has gone beyond an intellectual and barren monotheism to a pluralism that sees God in the infinite manifestations of nature and of human relationship. The pluralistic principle of social constitution feeds itself on this characteristic attitude of mind. In social organisation India has not established dominating central organs such as the absolutist and monopolistic types of social grouping which can satisfy only a bare and materialistic ideal of mechanical and administrative efficiency. India establishes and perpetuates multiple forms of social grouping, to which the individual is tied by organic and spiritual bonds, and which, like a concrete polytheism in the conception of *Biswarupa* and *Biswadeva*, satisfy the totality of human interests and needs, and are conducive to the development of the complete and concrete personality.

"This principle of social organisation has to be rehabilitated in order to check the destructive tendencies of the absolutist and militaristic ideal that has threatened to swallow up all vital and growing forms of social constitution. This rehabilitation is necessary even in the interests of the West itself."

At the end of the course of lectures recently delivered by me at Lahore as special lecturer in Indian economics I urged that there is no doubt that the fundamental social institutions of the West, such as the State and private property as well as the economic organisation will be built anew as a result of the war. The omnipotent socialistic State obtruding its arms into the domains of private and personal life, and accepting the criterion that it is the majority who must after all rule, and the minority will be obliged to submit with the best grace possible; the power of the financial and capitalistic interests in spite of the advancement in political democracy; a capitalistic system of industry creating an enormous disparity of wealth in society and maintaining and perpetuating an industrial oligarchy; the evils of poverty and unemployment, overcrowding and slums; the divorce of life from nature and from nature's standards; the loss of human sympathies and private affection; the lust for power—power in war by the State derived from command of the seas by the navy, and of the lands by the army—and power in wealth in the individual, instead of intellectual power and intrinsic wealth, the wealth of art, literature and religion for a nation, and of character and spirituality for the individual; the evils of financialism, capitalism, and militarism will rebound from these into worse evils—the literal struggle

MUKERJEE, RADHAKAMAL—*contd.*

for existence and class conflict in society as the modes of social progress—all these which have their appropriate theologies in a machine politics, a monetary economics, and a mechanical biology of the West will gave place in the natural, scientific, and democratic civilisation of the future to healthier social institutions which will emphasise man's return to a freer, nobler life, a return to human instincts and natural feelings, and to standards and norms derived from nature. The Indian economic scheme which, by utilising the communal habits and institutions for purposes of mechanical and technical efficiency, will be able to withstand the inroads of industrialism, will supply valuable material for the reconstruction of economic life that is in immediate prospect in the West. These materials will represent the human and social experiments of a race which has wisely limited the rights of the State and of private property, institutions which are the embodiment of the appropriative and exploitative impulses of the West, and has also wisely promoted creativeness at the expense of the appropriativeness that has become too much the characteristic of Western civilisation in industry and politics, both in internal and external relations, and has now thrown the world into the most dreadful confusion that the human race has ever experienced. Communalism, the science of economics, based on this economic scheme will not only furnish new data of human and economic construction, and organisation, but will also help in the formulation of broad and general principles of economics by collating and comparing the judgments of value and validity of the western and eastern cultures, a universal science in which the Indian conciousness, like every other regional consciousness, in the zones of cultural distribution, will contribute enduring and characteristic truths, which are but conscious formulations of those aspects of the universe-idea revealed to this group-mind from its angle of vision, and deeply embedded in its unconscious and sub-conscious strata. The economics of communalism contributing to the formulation of universal economics ought to be also the prelude to the new schools of sociological and humanistic sciences, schools of anthropology, sociology and politics, of comparative law and comparative jurisprudence, which will subsume the intermediate generalisations and formulæ of the sciences that go by these names in the West in principles of universal scope and validity derived from a corrected and extended historico-comparative method that is first applied to the study of economics.

The University, selective and predictive, must give its help in the reconstruction of our economic and social life, the remaking of our homes and villages, the planning of clean cities, noble social structures, and happy families. Western education, with its exaggerated emphasis of the principle of division, has created barren specialisms in arts and sciences and has created the unfortunate breach between the academy and the press and the platform, between the laboratory and the workshop, between the workshop and the garden, and between the art school and the slums. The new education will reunite the energies which are now being dissipated here and there in these separate, and even conflicting, fields of thought and action, and bringing about a co-ordination of social studies and social action, guide and inspire the harmonious blending of the communalism of India with the competition of the West in new, clean, beautiful, noble Indian cities and villages of electricity, hygiene, art, and religion, of which the new university will be the inner soul, builder, and inspirer. Witness the physical degeneration and the unemployment, the declining birth rate of our middle classes, our disintegrated agriculture, our debilitated arts and crafts, our deserted villages and unclean cities, the disintegration of our communal system, and the abject poverty of our labourers. The University must understand the deep issues of our life, grip our vital problems, and discerning and selecting what is best in eastern and in western cultures, formulate social aims and civic policies to check the disintegration and ruin of our old civilisation. The University militant should guide and inspire new social and human experiments, use specialised training and capacity for civic betterment and social welfare. Nothing is more demanded of our universities than the reunion of regional and social studies and regional and social initiatives and experiments in new and ever-expanding fields of collective thought and action. Six decades of an education, meant to satisfy administrative and professional needs for a microscopic minority, which has kept itself aloof from the vital problems of the life of the nation have passed; the future demands that education should be regional, communal, national, and keep steadfastly before itself the practical ends of social and civic welfare and progress.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

Sanskrit.

Sanskrit studies should be divided into two sections, *viz.*, the Eastern and the Western. The eastern section should be devoted to a critical study of the various branches of Sanskrit learning, including the *Vedas* and the six systems of philosophy. The existing system, no doubt, fosters the study of a number of text-books in almost every branch of Sanskrit, but the machinery provided for such study is wholly defective. An attempt has been made in the new system of post-graduate teaching to remedy the defect, but in the absence of a body of experts to work the system it is not likely to achieve the end in view. It is this body of experts which has to be created, and it can only be done by giving facilities for acquiring expert knowledge to a number of students who have shown special aptitude for such knowledge. Of all systems of Indian philosophy modern *Nyaya* is perhaps the most important, as furnishing a key to the understanding of other systems, but the abstruseness of its terminology has hitherto repelled students from its study, with the result that the vast body of literature known as *Navyanyaya*, or modern logic, is a sealed book to the Sanskritist of the day. And, as most works of the other systems of philosophy aiming at a precision of thought and expression are written in the style of modern *Nyaya*, they are very imperfectly understood by the Sanskrit-knowing graduates of our University. It is, therefore, desirable that some of our brilliant Sanskrit-knowing graduates should be induced to undergo a course of five years' training with some expert *Naiyayik* pandit or scholar of our day and required to pass some sort of a test in the subject. These men should form the nucleus of a body of experts upon whom would devolve the task of superintending the Sanskrit education of succeeding generations. A number of fellowships should be endowed to attract suitable men to this work. The Fellows should devote their time to the study of Sanskrit, and carry on research in some particular branch of learning. There should also be a western section of which the members should devote themselves to research work on western methods, and the knowledge of Pali and the *Prakrits* and of French and German, if not some of the other languages of Europe, besides English, should be made compulsory for them. They should devote themselves to research work connected with language and history and, like their colleagues of the eastern section, should office for life and consecrate themselves to the cause of learning and scholarship. All Sanskrit education in its higher branches should be entrusted to the body of experts selected from these two sections. It is in some such way that the defects of the existing systems can be remedied. Unless this is done, with the dying out of the old races of *Naiyaviks* the priceless literature of *Navyanyaya* and with it much that is valuable in other systems of Indian thought, will be lost for good to the world. Already books like *Kusumanjaliprakas* with Bardhamana's commentary, *Bauddhadhikar*, the *Khandana-khanda-Khadya* and a number of others of the *Vedanta* school have practically come to be sealed books, and it is high time that something was done to rescue them from undeserved oblivion.

SEN GUPTA, Dr. NARENDRANATH.

Teaching of psychology.

Psychology, though it began its career as a branch of philosophy, has ended as a natural science. The curriculum of the University includes psychology, but makes no mention of the laboratory facilities necessary for its study. Thus, the undergraduate, or even the M. A., who has passed through his course of psychology is often surprised to hear that such a thing as a psychological laboratory is within the range of possibilities. This state of things, I submit, should not continue. The study of psychology should always involve laboratory work. Otherwise, the study is useless and might as well be replaced by something more profitable.

Those who go in for the profession of teaching, especially in primary and secondary schools, must be familiar with the general principles of psychology. Such knowledge must be based upon facts, and not upon text-books. Hence, the training colleges which

turn out B. T.'s and L. T.'s should either establish psychological laboratories or attach themselves to well-equipped laboratories. Necessarily, they must have on their staff men trained in experimental psychology.

Persons who are now engaged in the inspection of schools are often those who have had nothing to do with the study of the human mind. Their inspection and supervision consequently do not extend to the mental life of schoolchildren. The result is that the mind of the child is an unknown quantity to the teacher. Even the familiar distinction between the normal and the abnormal child has no practical significance for him. Conditions of attention and inattention, nature of sensory defects and their influence upon mentality, the effects of fatigue—all these would open new chapters of study even for many veteran educationists. This, I beg leave to point out, is not a state of affairs to be any longer tolerated. The supervising officers must, in all cases, possess a working knowledge of the facts of mental life. The best way out of the difficulty will be to appoint graduates in experimental psychology to fill these positions.

The Department of Experimental Psychology of the University of Calcutta may well undertake to train men for these purposes if funds be forthcoming. Government might divert at least a portion of the funds spent on the David Hare Training College to the Department of Experimental Psychology, which, in exchange, would offer adequate facilities to students of the training college.

BANERJEE, Dr. M. N.

The History and Origin of Belgachia Medical College.

To trace the history of the Belgachia Medical College we have to go so far back as 1886. It was then felt that there was a great demand for medical education and that the Government institutions were not able either to cope with it or to supply a sufficient number of trained practitioners for the people at large. Realising the need of a private institution to supplement the efforts of the Government, some Indian medical practitioners started a Medical School at 161, Old Boytakhana Road. A Committee was formed in October 1886, consisting of Drs. K. N. Bhattacharya, R. G. Kar, B. B. Maitra, M. L. Dey, S. C. Mukherjee, P. C. Mazumder and others with Dr. M. N. Banerjee as Chairman for its organisation and management. The institution was removed to 155, Bowbazar Street, in December and on the 2nd of January, was named the Calcutta School of Medicine. At the commencement its specified objects were to teach allopathy, homeopathy and, if necessity arose, Hindu medicine separately and by separate teachers. As a matter of fact allopathy and homeopathy were taught till the 21st August 1887 when the Calcutta School of Medicine ceased to exist as originally started and the allopathic portion was made a separate school under the name of Calcutta Medical School with the object of teaching western system of medicine only as it was taught in the government schools and colleges.

The first final examination was held in March 1888. The students began to attend the Mayo Hospital and its branch dispensaries from this year and for this privilege we were indebted to Colonel R. C. Sanders, the Surgeon-Superintendent. In August 1888 an outdoor dispensary was started in the school premises, the expenses of which were met partly from the school funds and partly from subscriptions. A year after the school was removed to 298, Upper Circular Road. In August 1889, we obtained permission for dissection from the Government of Bengal and dissections were performed in November 1889. In this year the school was registered as a public institution.

During the succeeding years the gradual improvement continued and the school attracted the attention alike of Government and of the public. In January 1893, Sir Charles Elliot, the then Lieutenant-Governor of Bengal, presided at our prize distribution and was pleased to become a patron of the institution. From 1894 the students were of two classes, the licence class and the certificate class, the course of medical study being the same for both, but the standard of preliminary education being lower for the latter. The course of medical study was raised from three to four years for the license class from 1897.

BANERJEE, Dr. M. N.—*contd.*

From the year 1895 attempts were made to establish a hospital in connection with the school and in 1896 we were able to acquire, out of the funds of the school, the bulk of the present site at Belgachia. A hospital with 15 beds was founded in the meantime in the school premises in Circular Road on the 7th of September 1897.

On the 4th of February 1899, the foundation stone of the Albert Victor Hospital was laid by Sir John Woodburn the then Lieutenant-Governor of Bengal and the hospital was formally opened with 40 beds by him in February 1902. Through the exertions of the late Dr. Lalmadhub Mukherjee, one of our past Presidents, of the late Maharajah Sir Jotindra Mohan Tagore and of Mr. R. D. Mehta we were able to secure the surplus (Rs. 18,095-15-2) of the fund raised to give a suitable reception to His Royal Highness Prince Albert Victor on the occasion of his visit to Calcutta in 1890. And the hospital was named after the late prince and is one of the few permanent memories in India of his visit to this country.

In 1903 the school was removed to its present site. An out-door dispensary was opened in 1904, the cost being paid by the late Babu Manick Lal Seal.

The institution so far was a vernacular medical school of the standard of government Medical Schools. In 1904 the College of Physicians and Surgeons of Bengal was amalgamated into it.

A college department with a five years' course was started after the amalgamation. From July1904 there were the school with a four years' and the college with a five years' course at Belgachia. The certificate class was abolished and its last examination was held in 1906.

As the demand for beds in our hosiptal increased and as the 40 beds were found insufficient for the number of students it became necessary to increase the accommodation. The late Ranee Kusturi Manjari Dassi of Posta was pursuaded by Dr. M. N. Banerjee to help us in the building of the second storey of the hospital, the entire cost of which (Rs. 40,000) being paid by her. The new wards were opened by Sir Edward Baker in November 1909. The hospital was now able to accommodate 100 patients.

In the year 1910 His Highness the Raja of Tipperah established a Medical School at Agurtola, the capital of his State, and had it affiliated to our institution. The school has been abolished, the affiliation lasting for two years only.

In the year 1911 the institution entered upon a new phase of its life and the real beginning of the Belgachia Medical College dates from this year. A bill for the registration of medical practitioners in Bengal was contemplated and in August 1910, the Government of India addressed the Government of Bengal stating that it was undesirable that legislation should be undertaken against the private medical colleges until an effort had been made to induce all or some of them to unite in forming one good and efficient teaching institution. In compliance with these instructions several meetings, presided over by Surgeon-General Harris were held in his office in March 1911, but no definite conclusions were arrived at on account of the clashing interests of the various institutions and of the uncompromising attitude of some of their representatives. Sir Pardey Lukis, Surgeon-General with the Government of India, was, however, anxious to see a private medical college working in healthy rivalry with the Government Medical College and, as he said in his speech in Council on the Medical Degrees Act, " after two years had elapsed without any progress being made the Government of India decided to render financial help to the parent institution the College of Physicians and Surgeons of Bengal (Belgachia) with a view to its ultimate affiliation to the University of Calcutta." But when this decision was communicated to the Government of Bengal it met with opposition from their medical advisers and no progress was made till Colonel W. R. Edwards came to officiate as Surgeon-General. In September 1913 our representatives met in conference with the Government of Bengal and several meetings were held in Darjeeling presided by Lord Carmichael. Lord Carmichael used to take an active and sympathetic interest in our institution. Sir William Duke and Mr. H. L. Stephenson also did their best to help the scheme. Ultimately with the kind help of Surgeon-General Edwards the whole scheme was put into shape and is embodied in a letter dated 12th October 1913 written by our President to him. To state briefly the Government promised a capital grant of 5 lacs for buildings and a recurring grant of Rs. 50,000 annually and we agreed to raise 2½ lacs for equipments and to secure annual grants of Rs. 30,000 and Rs. 10,000 from the Corporation and the

BANERJEE. Dr. M. N.—*contd.*

University, respectively, the remainder of the recurring cost being met by fees and endowments. The Government was to nominate three members out of eleven for the managing committee and the appointment of a superintendent of the hospital was to be subject to their approval, but the Government agreed to give us a free hand in the management of the institution in all other matters. Surgeon-General Edwards in his letter, dated 13th October 1913, said: "I am aware that in this case you are most anxious to prove that you, as Bengalis, can make a complete success of the institution, without any other than monetary assistance from Government, and that in order to vindicate your power of organisation and administration you wish to be given an absolutely free hand as far as the Government is concerned and eventually you are willing to be judged by results." The sanction of the Secretary of State to this scheme was obtained early in 1915, and the Government of Bengal published a resolution in the *Calcutta Gazette* of 20th April 1915 announcing the conditions on which the government grants were to be made and ending with the following remarks: "It now, therefore, rests with the committee to fulfil their part of the arrangement and collect the necessary funds; thereafter the success of the experiment, in which His Excellency in Council takes the very deepest interest, will depend upon the independent medical profession in Bengal." The Calcutta Medical School and College of Physicians and Surgeons of Bengal ceased to admit new students, in terms of arrangement with the Government from the commencement of the session of 1914. We applied in anticipation of the sanction of the Secretary of State, for University affiliation on 20th February 1914. Colonel Calvert and Dr. Brühl were appointed to inspect the institution and on their report, dated the 29th June 1914, the syndicate asked us to carry out certain improvements. The improvements were carried out and they came to inspect again in June 1915, but the syndicate on their report deferred the grant of affiliation on financial grounds. The financial difficulty arose from the conditions laid down by the Secretary of State. The three conditions that we promised to fulfil, *viz.*, the raising of 2½ lacs from the public and securing annual grants of Rs. 30,000 and of Rs. 10,000 from the Calcutta Corporation and University respectively, were made conditions precedent to the Government grants. Whereas we understood that as we did not want the whole of the Government grants at once, we were to fulfil the conditions gradually and to complete them before obtaining the full amount of the Government grants. However, as the conditions laid down by the Secretary of State were definite and there was no alternative we applied ourselves assiduously to fulfil them. The Corporation of Calcutta, under the guidance of its Chairman, the Hon'ble Mr. Payne, who has always taken a keen interest in our institution, promised to give us an annual grant of Rs. 30,000 and the University of Calcutta also held out hopes of substantial support. We succeeded also in getting the major portion of the 2½ lacs from the public We applied again to the university for affiliation to the Preliminary Scientific standard informing the syndicate of the progress we made and guaranteeing to make up all the deficit, if any, in the annual expenditure, each member of the committee signing on his personal security. After a prolonged correspondence between the University and our president the latter succeeded in satisfying the former about the financial condition and the requirements and on the 9th of October 1915 the syndicate recommended the affiliation to the senate. At a meeting of the senate on the 8th of January 1916, a resolution for affiliation was adopted in spite of strong opposition from certain quarters. Sir Pardey Lukis came to Calcutta and attended this meeting to help us in getting the affiliation; it was at his suggestion that the affiliation was granted so far as the University was concerned, on one condition only, *viz.*, that the sum of 2½ lacs promised by us must have been actually paid into the credit of the school. But as the new session was about to commence and if immediate affiliation was not granted a year might be lost, our president represented the whole matter personally to the Government of India and the Government of India were pleased to modify the condition and order the affiliation in their letter No. 248, dated the 21st March 1916 (Education Department), to take effect from the commencement of the session 1916-17 with directions that if within six months the sum of 2½ lacs promised by us was not actually paid into our credit the syndicate was to take steps for disaffiliation. For this favour we are indebted to the Hon'ble Sir Sankaran Nair.

The affiliation being obtained all arrangements were at once made for the commencement of the session and the Belgachia Medical College was formally opened on the 5th of

BANERJEE, Dr. M. N.—*con'd.*

July 1916 by His Excellency Lord Carmichael, Governor of Bengal. The classes for the preliminary scientific course were opened in the old school building modified and improved for the purpose.

Within the time extension (6 months) given us for raising 2½ lacs the whole amount was subscribed for. But on the last day it was found that the amount collected was Rs. 30,000 too short. To prevent disaffiliation four members of the committee borrowed Rs. 30,000 on their personal responsibility and made up the deficit. This loan has nearly been paid up from collection realised since then.

A new difficulty arose when, having, as we thought, satisfied all the conditions laid down by the Secretary of State, we applied in October 1916 for the Government grants. The Government of Bengal was not satisfied about the university grants. The university grants to colleges are ordinarily made from the money allotted for this purpose by the Government of India and although the university was prepared to earmark Rs. 10,000 out of this money every year for our institution the Government of Bengal thought that the grant should be made from university money and not from government money. The University had no other money to give the grant from. So the Government grants could not be obtained and the matter had to be referred to the Secretary of State again.

Arrangements were already made for the construction of the new college building and a day was fixed for the ceremony of laying the foundation stone. Sir Pardey Lukis was to have laid the foundation stone on 29th November 1916 but he could not do it on account of this new difficulty. He advised us however to go on with the work. The committee hesitated to incur an expenditure of 3 lacs for the college building with the uncertainty of Government grants but at last decided to continue the building works. We consider ourselves fortunate that we did not stop the work, for a little later the Tata Iron Works were commandeered and it would have been impossible for us to build the large spacious laboratory rooms if the heavy steel joists were unobtainable.

When the Government of Bengal thought it was necessary to make a reference to the Secretary of State about the university grants the committee represented that to get over the technical difficulty they would rather do without the university grant and that their increased income from the increased rate of fees from students enabled them to do so. The Government of Bengal supported us in this representation. The Secretary of State was pleased to waive the condition of the university grant and the Government of Bengal communicated this in their letter No. 933 Medl., dated the 11th May 1917, and offered to pay the grants on the committee signing a deed in the prescribed form for such grants. The legal formalities are being gone through. We have got a portion of the grants and the balance we expect to get within a short time. The affiliation for the first M. B. was obtained on the 29th June 1917, the ground floor of the college building was finished in May 1917 and the equipments being completed the lectures and practical classes for the preliminary scientific and the first B. M. courses were commenced in new building from July 1917.

The Belgachia Medical College is now an accomplished fact and the committee feel the greatest pride and satisfaction as they recall the fact that this is the first non-official Medical College in India manned and managed entirely by Indians.

XVII. TEACHERS, TRAINING OF.

General Memoranda.

BISS, E. E.

So long as teachers who have not received any professional training are treated as being on the same footing with those who have been trained it cannot be hoped that teachers will be very eager to put themselves to the trouble of a strenuous course of study, followed by a degree examination. It seems desirable, therefore, that, as soon as money becomes available for an improvement of the pay of high school teachers (for this note only refers to such teachers), it should be devoted to the establishment of a new salary scale to which only teachers who have obtained a definite professional qualification should be admitted. This would entail no hardship for existing teachers who, as they become trained, would be removed across from the present scale to the new one and take up their own relative positions there. Such an arrangement would carry with it two definite advantages. First, it would hold out a strong inducement to teachers to become trained. Second, it would introduce only gradually the additional expense involved in starting the new scale.

In addition to the above, I would urge that it is one of the responsibilities of the State to say that only fit teachers should be allowed to teach in high schools. State licenses, either temporary or permanent, should, therefore, be established and all high school teachers compelled to provide themselves with one or the other at a fee only large enough to cover postal and printing expenses. Permanent licenses should be issued to all teachers over forty years of age, and they should be allowed to finish their careers in peace. They should also be issued to teachers who have satisfied the authorities on the score of their professional qualifications. Temporary licenses should be given to teachers under forty years of age who have not yet qualified themselves, but it should be understood that they are liable to be withdrawn if the holders fail to qualify themselves within a reasonable time. It may be hoped that, as the provision of facilities for the training of teachers becomes wider, the number of temporary licenses will decrease until they are only used for young men at the commencement of their careers. The object of all this is to secure for the high school teacher a definite professional status.

At present the only inducements which offer themselves to teachers to become trained voluntarily are their own interest in their professional work and a vague hope of possible preference for good posts. The principal inducement to enter a training college remains that of a forcible deputation by the inspectors of schools. It may be hoped that, as the training of teachers is extended the University or other recognising authorities will compel all recognised schools to have on their staffs a certain proportion of permanently licensed teachers. School authorities might also provide that no teacher, except one holding a permanent license, should take part in any pension or provident fund, or be confirmed in his post.

Turning now to the question of the certification of teachers I should like to say that on my first appointment as principal of the Dacca Training College I tried to get the college started on a basis quite independent of the University. This does not mean that I consider that there should be no connection between the training of teachers and the University. On the contrary, I am very anxious that teachers should feel that their study of education has very great value from the academic point of view. There is, however, a part of the professional work of a teacher which is not academic. I refer to the technique of school and class organisation, the use of the black-board and of illustration generally, the organisation of physical exercise and the playing of games, the ability to maintain discipline in the varying conditions of school life, and the management of school hostels. It is particularly difficult for an affiliating university to lay down courses and to impose tests of real value in these matters and it is of the greatest importance that the staffs of the colleges concerned should be in a position to vary the conditions and the organisation of this work with the greatest facility. In these matters, then, the University connection has always seemed to me to be burdensome. I, therefore, suggest that all intending teachers holding a qualification equal to, or higher than that of the intermediate

BISS, E. E.—*contd.*

examination of the University should be required to go through a year's course of training in the technique of their profession and that they should be awarded a State diploma certifying their ability in these matters.

The diploma course should consist in the study of the following:—

(*a*) The organisation and class work of a good demonstration school.
(*b*) Certain school subjects and the methods of teaching them, including black-board work.
(*c*) Physical exercises and games, together with elementary hygiene.
(*d*) Spoken English, together with essay writing, the use of books, and précis writing
(*e*) Several weeks' teaching under close supervision.

It should be possible for a man holding the diploma to obtain an endorsement as an inspecting officer, or as a specialist teacher, after a short period of special training for the purpose.

When a teacher has held a State diploma during two years of practical teaching in a recognised school he should be considered qualified to enter upon a single year's course leading to the degree of B. T. This course might be provided either in the training college or in special classes in arts colleges. The classes should be kept small, and the course of instruction should include the following:—

(i) The history of education—a selected period.
(ii) Educational administration in India and in one or two other countries.
(iii) School organisation.
(iv) The theory of teaching.
(v) One school subject, or a group of subjects, studied in detail.

During this year it should be made possible for the student to visit as wide a range of educational institutions as possible; but it should not be considered necessary to worry him with much practical teaching. His diploma course and subsequent teaching work should have proved whether he is capable of this important part of his duties. I am convinced that the provision of such a year's study of education would be a relief to any teacher after some years' school teaching, and the knowledge gained during that year should be considered essential for a man holding the more responsible posts in schools and on the inspecting side of educational work. The degree of B. T. would, on this plan, be taken by intermediate passed men after two years' college instruction, between which they would have taken two years' practical teaching. Graduates would have been through the same course. I do not think that this would be a bad arrangement for I have found that the best intermediate men are much better as teachers than the worst graduates. The amount of Government aid that would be provided would be a great incentive to taking their B. T. degree for the more intelligent of the poorer class of intermediate passed men. Graduates would still be distinguished by holding two degrees, instead of only the professional one.

But it is desirable to enable a teacher to advance from his B. T. to the coveted degree of M.A., and I would suggest that the University should provide an M. A. course in education for approved B. T.'s of at least two years' standing. There is, I suppose, no longer a dispute as to whether the subject of education is in itself of sufficient cultural value for this purpose. I would, therefore, allow approved B. T.'s to take their M.A. degree either in one of the ordinary M. A. subjects or in some branch of the study of education itself.

I venture, at this point, to remark that a great deal of material that would be good for teaching purposes, if it could be developed for that purpose after the matriculation stage, is being wasted. Subjects are selected for the intermediate examination sometimes according to the whim of the student, but more often according to the supposed ease of the examination in, or the combinations of, the subjects in which lectures are provided in the particular college to which the student can get admission. A large number of matriculates who are capable of going further is also debarred from this course by poverty. I consider that it would be worth while for the University to provide matriculates who intend to become teachers, either in the training college or in some other place, with a special intermediate course in such school subjects as history, geography, mathematics, science, etc. It has been suggested that such students might

also at this time be given instruction in their professional work. I consider that it would be much better for them to concentrate on learning the subjects themselves at this stage, rather than to distract them with ideas of teaching them.

One last point must be mentioned. At present, teachers are sent from Assam to be trained in the Dacca Training College. This is most undesirable. In the first place, it involves administrative arrangements between the two Governments; secondly, Bengal stands in need of all the teachers that can be trained at Dacca; and thirdly, Bengali teachers at Dacca are placed at a disadvantage by the present arrangement for Assamese teachers are often incapable of teaching through the medium of Bengali and all their work has to be done in the upper (English) classes. The number of practising classes is limited, and this means that less practice in the English classes is available for Bengalis. If the present financial condition of Government makes it impossible to open a training college in Assam it might be possible to establish a training class in connection with Cotton College, Gauhati. I hope the Commission will be able to examine and make recommendations on this point.

CHAKRAVARTI, CHINTA HARAN.

The professional training of teachers means the training of all grades of teachers for the teaching profession.

There are elementary school teachers called *gurus* for whose efficient training *guru* training schools are being started by Government. The problem is a big one, and involves a large outlay of money and an extensive organisation. Under the present system, the tutors are the successful students of the normal (training) schools. It is desirable that more competent staffs, *e.g.*, B. T.'s should be placed in charge of the *guru* training schools.

For the training of the vernacular teachers of the middle vernacular and middle English schools there are six normal schools in the province. They are doing good work and their number and efficiency should be increased. Their outturn falls short of the demand.

Very recently (since 1908) two or three training colleges have been established for secondary school teachers. They are mainly managed by Government. They prepare students for the L. T. diploma and B. T. degree according as to whether they are undergraduates or graduates. Considering the number of secondary teachers in the 553 high schools of the province the existing facilities for their training are quite inadequate to the requirements. It is desirable that the Calcutta University should undertake the training of secondary teachers as is done by the English universities. The University should have a central teachers' college in Calcutta, like the Law College, for such graduates and undergraduates as would join the teaching profession. For practical teaching a practising school of its own may be started or some of the schools in the neighbourhood of the senate house may be utilised. Important colleges, such as the Scottish Churches, Dacca, Hooghly, Rajshahi, Krishnagar, and Chittagong Colleges, should open training classes for undergraduate teachers. It will not be difficult to provide additional staff for lectures and supervision of practical teaching if the services of the existing available B. T.'s be utilised fully. The course should be for one year. If some colleges cannot provide adequate practical work in teaching students may have their theory lectures there and pass the theoretical portion of the examination first. For practical teaching they will join some training college subsequently where, under expert supervision, they will learn the technique of actual teaching.

I would make the following suggestions:—

(*a*) If the University should require the authorities of the high schools to employ a certain minimum of trained teachers on the staff of the school after a certain time, say, five years, intending teachers, graduates, and undergraduates, as well as those now in service, will undergo a course of training to qualify them for teaching work. This will accentuate the demand for trained teachers and improve their economic and professional status.

(*b*) A chair of education may be founded by the Calcutta University to organise popular lectures on educational subjects.

(*c*) Education should be made an optional subject in the B.A. course. Students going through such a course would learn the general principles of education as a preparation for subsequent teaching work. This is being done in some American colleges.

(*d*) At present, the matriculates, who form a large proportion of the secondary teachers in the province, have no facility for receiving any training. Government have proposed that they should be trained at the normal schools for a year. It would be a good thing if a few high schools were made special centres for the training of such teachers under the supervision of trained head masters.

Oral evidence.

GRIFFITH, W. E.

11th February, 1918.

Relation to University.—As a general rule, the best secondary training colleges are attached to universities. The students in training get the advantage of the culture of the University, they attend lectures on general subjects which will be useful to them in their future professional work; and they enjoy social intercourse with students of every type. If, however, these advantages are to be real students must have proper accommodation, suitable surroundings, and playfields close at hand.

There are five divisions in Bengal, *viz.*, Dacca, Burdwan, Chittagong, Presidency, and Rajshahi. I suggest that one secondary training college be built in each of these divisions. General arrangements have already been made for one at Ballyganje near Calcutta and another at Dacca, and these may well be carried out. Suitable accommodation can be found for others at Serampore in the Burdwan division, at Chittagong, and at Rajshahi. The first two could be attached to the Calcutta and the (proposed) Dacca Universities, respectively, and the other three might be under direct Government control.

Number of students in each institution.—At present, the output of trained teachers in Bengal is very inadequate, and larger numbers are required each year. At the same time, the numbers in each college should be small, for each student should come into daily personal contact with the professors, and he should also get plenty of practice in teaching under proper supervision in the practising school. I think that the best results will be given if the number of students in each secondary training college does not exceed fifty in any one year.

Length of course.—The existing secondary training college course continues nominally for ten months, that is, from the beginning of July to the end of the following April. In reality, the course does not cover more than seven months. This is clear from the arrangements which have been in force during the present session. The course began on the 3rd July, 1917, and the University examination for B. T. degree will start on the 19th March, 1918. During the session the following holidays have been enjoyed:—

10th and 11th July	*Id-ul-fitr*	2 days.
29th August	*Janmastami*	1 ,,
16th September	*Id-uz-zuha*	1 ,,
4th October	*Mahalaya*	1 ,,
7th October to 5th November,	*Durga Puga* vacation, including *Kali* and *Muharram*	26 days.
12th and 13th November.	*Jagadhatri Puja*	2 ,,
12th December	Durbar Day	1 ,,
16th or 17th December	*Fatiha Duuazdaham*	1 ,,
24th to 31st December	Christmas holidays	7 ,,
1st January	New Year's Day	1 ,,
15th and 16th February	*Sripanchami*	2 ,,
	TOTAL	45 days.

GRIFFITH, W. E.—*contd.*

The course should continue for at least twelve months, and should coincide with the Bengal secondary school year, *i.e.*, from the 1st January to the end of December.

Number of courses.—Two secondary training courses exist in Bengal at the present time—the L. T. course for students who have passed the intermediate examination of the University, and the B. T. course for graduates of the University. A very large number of trained teachers are required in the immediate future for the schools, and the technical knowledge which they need can be equally understood by the intermediate passed man and by the graduate. Besides this, it is difficult to find a sufficient number of properly qualified professors to staff the existing training colleges. For both these reasons I think that one course for both graduates and intermediate passed men would be advisable.

Simple syllabuses.—My experience as an inspector of schools has made me feel that the training course should be of a simple character. The majority of existing high school teachers are keen on their profession, but they do not understand the general principles which underlie their work. This lack of knowledge is particularly noticeable in connection with the following:—

(*a*) The real purpose of education.
(*b*) The responsibility which school teaching entails.
(*c*) The supervision by headmasters.
(*d*) The arrangement of class-rooms.
(*e*) The monthly routine and daily preparation of lessons by the staff.
(*f*) The methods of teaching school subjects.
(*g*) The difference between lecturing and teaching.

I would also add that the general stock of information of the average teacher is of a meagre character, and that school libraries need many additions, especially juvenile story-books and standard works on the art of teaching.

Past students of the Calcutta Training College say that they derived special benefit from the writing of weekly essays on educational subjects, from the demonstration lessons given by the college staff, and from the actual teaching-practice under supervision which they had. These should be continued as in the past, and opportunities for teaching-practice should be given to each student throughout the whole course; it should not be relegated to a consecutive two months of the year, for the average Bengali student in training needs constant practice in class management and class teaching.

The existing "syllabus of studies" is to be found in chapter XL of the Calcutta University regulations. The "theory and art of teaching in relation to mental and moral science" has been found very suitable; in connection with it, I would say that there is a tendency to lay too much stress on experimental psychology, *e.g.*, the measurement of fatigue. I suggest that the psychology should be mainly concerned with the child in the class-room, and that the experimental side should be left to the Research Department of the University. The "methods of teaching specific subjects and school management" have also proved exceedingly useful and helpful. The "history of educational ideas and methods" is far too wide a subject for students. I think that the "general history of education in Europe" should be of a much smaller period; and that, in addition, the educational systems of England and Bengal might be studied in detail. One or two special books might be read; among those which are of special interest to the present Bengali student in training are Stanley's *Life of Arnold*, Rousseau's *Emile*, and Herbert Spencer's *Education*.

Matriculates and the teaching profession.—At present, no special training facilities exist for those teachers who have passed the matriculation examination but have not continued their studies further. Many of these teachers have been compelled to give up the idea of reading for the intermediate examination on account of poverty; they would eagerly seize any opportunity for continuing their studies. If such students were given bursaries of sufficient amount to pay their university college expenses, on condition that they afterwards entered a secondary training college, they would gladly accept them. Many of these would prove useful members of the teaching profession in the years to come.

College professors.—There is another question of professional training besides that connected with the high school. It concerns the professors of colleges affiliated to the University.

GRIFFITH, W. E.—*contd.*

I have visited a number of second-grade colleges and I find that, although professors may have a thorough knowledge of their subject, they do not impart it to the fullest advantage to their students. For instance, I attended a chemistry lecture in one of these colleges and the professor gave a number of experiments to illustrate his lecture. Before carrying out each experiment he explained to the students what he was doing and told them what the results in each case would be. He did not leave them to observe for themselves or to draw their own deduction in each case. Again, I find that professors of English lecture to their students for the whole of each period; many of the students have great difficulty in understanding the English language and, certainly, cannot follow the substance of what is said.

I suggest that a three months' professional course would be very helpful to many professors of university colleges. If they attended a number of lectures on the art of teaching, saw a few good lectures delivered, and gave a number of lectures under supervision themselves, the standard of teaching work in the colleges would soon reach a much higher plane.

No special training college need be opened for this purpose. Professors might be sent to various existing university colleges. For instance, the principal of the Hooghly College is also the professor of mathematics. This college might be a centre of training for professors of mathematics. Other colleges might similarly be chosen for professors of other subjects.

XVIII. TEACHING, COURSES AND METHODS OF.

General Memoranda.

BHATTACHARYA, BRINDABAN C.

Sanskrit is the sacred and learned language of the Hindus and the vehicle of their ancient religion and civilisation. It has its great value, again in the interpretation of the life and thought of India to the West. And, it may well be shewn that the study of Sanskrit is a mental discipline of a high order, which is peculiarly suited to the exigencies of the present time. The proposed Oriental Research Institute at Delhi would be a great advance in this direction. But the spirit must be more wide-spread. Happily, the signs of the times are indicative of a near Revival of Sanskrit Learning. The "Bharat Dharma Mahamandal" and the new Board of Sanskrit Examination at Calcutta have, as is well known, their vested interests in the advancement of Sanskrit learning. The Hindu protected chiefs, who have, naturally, a deep veneration for the language in which all their sacred literature is enshrined, will, if encouraged by Government, give the necessary impetus to the study of Sanskrit in their own States. The wealthy *Pandas* or Priests at places of pilgrimage and the *Mohants* of endowed temples may very well be persuaded to start and endow a Sanskrit seminary for the benefit of their own class.

I would now mention categorically some suggestions with regard to the position of Sanskrit in our Universiry.

(*a*) Sanskrit to be made obligatory up to the B.A. in our Colleges.

(*b*) No distinction may be observed between an M.A. in English or in any other subject and an M.A. coming up with Sanskrit as his special branch.

(*c*) To open special research classes in association, with oriental studies under the supervision of the Archæological Department where students with special aptitude may be awarded suitable stipends to help them to specialise in their chosen courses of study and practical research work.

(*d*) The status of the existing Sanskrit *tols* may be advanced and their deserving students may be admitted to the proposed reasearch classes, where they may be trained in the scientific methods of the study of Sanskrit as approved by European *savants*.

(*e*) To expand gradually the Archæological Department which will have, under skilful management, an almost unlimited field of operations before it.

(*f*) Asysltem of co-ordination may be established between the English schools and the Sanskrit *tols*, where they exist in convenient proximity, by an arrangement under which the students in the English schools may have their Sanskrit lessons in the *tols*, instead of their own schools. This will not only engender a feeling of fellowship and a better appreciation of one another than otherwise possible but will also effect economy, as the services of Panditts will no longer be required in the English schools.

A training college for professors.—Experience shows that those who are good at memorising work for examinations are not always good teachers in a college. They generally fail as good teachers, despite their academic distinctions, as they lack the rudimentary ideas of education and the human mind. Hence the need of opening a higher grade training college for professors.

Time of university examinations.—University examination ought, for many reasons, to be held in the winter months rather than in the summer. In a tropical country like India, the summer is a very trying season. It is, also, the time when all sorts of epidemics break out in places like Dacca, Calcutta or Patna where by far the greater majority of examinees congregate. The result is, in many cases, found to be disastrous. A university examination in itself, is a sort of struggle and, therefore, it ought not to have added to it the struggle against nature. Winter on the contrary would be the proper season for the mental strain which the students have to undergo in any test whatever and is therefore to be considered the fittest time for holding all university examinations.

BHATTACHARYA, BRINDABAN C.—*contd.*—COYAJEE, J. C.

Modern geography as a university subject.—It is a common admission that geography as it is now, has a special claim to being included in a university curriculum. Although, fortunately, its name is down as an optional subject in the I.A. course of the Calcutta University, it is, in fact, nowhere taught except in one girls' college in Calcutta. Besides being an excellent subject for imparting liberal education, it may, also, as an intermediate study, serve as a good introductory for economics as taught in the B.A. course. The colleges should, therefore, be persuaded favourably to provide for the teaching of the subject and to encourage students in general to take it up as a useful study for their examination.

COYAJEE, J. C.

I submit a scheme for reorganising the I.A. or initiate in arts course.

Each student has to take three subjects besides five optional subjects to be selected from two out of three groups mentioned below. A student must resort to subjects under two groups in order to provide against narrow specialisation.

Compulsory subjects :—

(1) English : including the writing of an essay and an ordinary business letter.
(2) A general-knowledge paper involving history, geography and current topics.
(3) Arithmetic and algebra. In arithmetic the subjects of practical importance should be emphasised, *e.g.*, abbreviated forms of multiplication and divisions interest, stocks and shares.

Group I. (*Literary.*)

Groups for optional subjects :—

(1) Languages (ancient and modern).
(2) English history.
(3) Indian history.
(4) A course of English literature.
(5) Logic.

Group II. (*Pure science and mathematics.*)

(1) Higher algebra and geometry.
(2) Elementary calculus.
(3) Mechanics.
(4) Astronomy.
(5) Trigonometry.
(6) Physics.
(7) Chemistry.
(8) Elementary botany and zoology.
(9) Descriptive economics.

Group III. (*Applied science and vocational subjects.*)

(1) Elementary agriculture.
(2) Mensuration and land-surveying.
(3) Book-keeping.
(4) Geometrical and mechanical drawing.
(5) Shorthand and typewriting.
(6) Commercial geography.

A candidate for literary education takes up :—

(1) A modern language.
(2) A classical language.
(3) One of the histories.
(4) Logic.
(5) Descriptive economics.

A candidate preferring engineering would adopt the following combination :—

(1) Mathematics.
(2) Elementary mechanics.
(3) Geometrical and mechanical drawing.
(4) Chemistry.
(5) Physics.

This is the same arrangement as that of the Matriculation for the engineering students in London (Fleming and Bailey, pages 38-40).

The commercial candidate can have :—

(1) A modern language.
(2) Book-keeping.
(3) Descriptive economics.
(4) Shorthand and typewriting.
(5) Commercial geography.

One who goes in for agriculture will take :—

(1) Chemistry.
(2) Botany.
(3) Mensuration and land surveying.
(4) Agriculture.
(5) Book-keeping.

This is the short course for agriculture in University College of North Wales.

In order to emphasise the importance of the examination as a definite stage in our educational system the successful candidates should be given the degree of "I.A." (Initiate in arts).

HARLEY A. H.

The matriculation standard should be approximately equivalent to the present I.A., and as this would practically involve the addition of one or two years to the school period, one year might be reduced from the B.A. which would therefore occupy three years instead of four years as at present, and the I.A. would be abolished. Further for the M.A. two oriential languages should be offered simultaneously or preferably a group of three kindred languages, and this principle should be accepted as far as practicable for all departments of the M.A. Madrassah-passed students should be admitted to the M.A. examinations and the B.A. examinations and awarded these degrees.

MITRA, CHANDI C.

Educational problems in Bengal can be best solved by the establishment of more universities—one university, say, controlling every three or four colleges. That will tend to the establishment of more intimate relations between the University and its constituent colleges with the result that examinations will be adapted to the teaching in the several colleges and teaching will no longer be unduly subordinated to university examinations.

But that happy state of affairs cannot be attained all at once and the remedy meanwhile lies not in an overthrow of university control—the result would be chaos—but in the introduction of changes in the present system.

The chief object of education is sufficiently indicated in the root of the word. Education is that which *leads out* the inner man, brings out the faculties innate in him, in a word, helps him to achieve his manhood. A man, after receiving his education, will be more a man than before—he will learn to think for himself. So education gives a man thoughts of his own. But then silent thoughts are of no use to anybody, and an

MITRA, CHANDI C.—*contd.*

educated man must know, therefore, how to express his thoughts in the best and most effective way. The objects of education, therefore, are as follows :—

(*a*) To teach a man to think for himself.
(*b*) To teach him to give the best expression to his thoughts.

However, the existing university system tends to the production, not of thinking human beings, but of sponges. It developes in the student a capacity to drink in information and to store them up till they are squeezed out of him, in a dirtier form, on the day of the examination.

And the professor, slave to the system as he is, ignores the human element in his class. Forced to finish his many books in course of the prescribed inadequate time, he cannot pause in his mad career to see if the student has been thinking for himself or merely imbibing the information which flow from him in a wild torrent. The usual—nay, the inevitable—practice is for the professor to take a book, and to hurry through it—a fact which he knows best how to accomplish—stuffing the student with the information which he himself possesses. The student takes his professor on trust—he implicitly believes whatever falls from the lips of his infallible divine mentor—and in this borrowed wisdom he shines till the bright plumes are plucked off him and submitted to the scrutiny of university experts.

A fact even more curious is that he borrows expressions as well—from his professor or from those pernicious and abominable bazar notes. He has not assimilated the thoughts he has borrowed—he does not know what that means—he must borrow, therefore, the slipshod and rickety expressions as well, or the thoughts will fail him on his day of ordeal. That is his only fear and if the thoughts abide with him till that day, he will be quite content to remain a blank ever after. So we see that under the present system the student does not attain either of the objects of education—he is not taught to think for himself nor to express himself.

That these two objects can be realised, I would suggest a modification of the university curriculum. The change must naturally be in two directions—two separate courses of study should be prescribed to develope in the student powers of thinking and powers of expression respectively. A few books calculated to make one think should be prescribed for a close and detailed study. The professor can, in that case, walk over the ground more leisurely with his students and can afford to open their eyes to anything new he finds on the way. The students, again, can stop to look about them and try to understand things for themselves calling in the aid of the professor whenever they find any difficulty, The immediate result will be a vast improvement in the quality of knowledge—the students will no longer give out the nauseating and dirty sponge-water we are accustomed to get from them, but will bathe us in the pure water of the spring. Limit the field of work and you may be sure students and professors will be glad enough to dig deep, reaping harvests, small in quantity, it is true, but of the finest quality.

But a different sort of prescription is necessary to stay the ravages of that other foll disease, common among students,—the disease, namely, of a weak, heavy and dense style through which no light breaks in upon the sense of the reader. A lucid, easy and beautiful manner of expression is a reward which one can secure only after a long and wide acquaintance with the masters. For the attainment of this second object of education, therefore, there may be recommended some more books, chosen with an eye to their manner. But the recommendation of these books as "specimens of style" will be useless, unless questions are set therefrom in the examinations, for they will not be read otherwise.

I believe I have made myself clear. I am an advocate for a dual system—a system, which will limit the field of work as a means of developing in the student powers of independent thinking, and which will extend it with a different object, namely, that of developing in him the powers of expression.

Naturally, I confine my observations to the teaching of English in colleges but I believe that school education ought to prepare the way for college education. I will, therefore, begin with the matriculation examination and suggest details for each of the successive examinations.

Matriculation examination.—One book at least should be definitely prescribed—a selection may be published by the University as was done before the year 1910. In addition, 4 or 5 books may be recommended as now, and, in order that they may be read by the students, questions must be asked from them. The distribution of marks may be like this :—

First paper—
(*a*) Questions from the prescribed book 50
(*b*) Grammar and translation 50

Second paper—
(*a*) Questions from the recommended books 50
(*b*) Essay, substance-writing, etc. 50

Intermediate examination.—In this case too, two sorts of books should be chosen—some for careful study, others for a more or less cursory reading. Translation from Bengali into English, I think, should be included, because it is the only way of gaining mastery over a foreign tongue. The marks may be distributed like this :—

First paper—
Questions from the prescribed books (not more than four). 100 marks.

Second paper—
Questions from recommended books (not more than six) . 100 marks.

Third paper—
English composition. translation, etc. . . . . 100 marks.

B.A. examination.
First paper—
Questions from prescribed texts (four) . . . . 100 marks.

Second paper—
Questions from recommended books (six) . . . 100 marks.

Third paper—
English composition, essay, etc. . . . . 100 marks.

B.A. examination (English honours).
First paper—
Questions from prescribed texts (same as in the pass course) . . . . . 100 marks.

Second paper—
Questions from a prescribed period of prose or on a prescribed prose author . . . . . 100 marks.

Third paper—
English composition, etc. . . . . 100 marks.

Fourth paper—
Questions on a prescribed period of poetry or on a prescribed poet . . . . . 100 marks.

Fifth paper—
History of English literature and philology . . . 100 marks.

MUKERJEE, BIJOY GOPAL.

As true education implies a knowledge of something of everything, and everything of something, it is desirable that at the preliminary stage a student should acquire a knowledge, though of an elementary character, of as many subjects as possible, and he should specialise in a particular subject only at the final stage of his career. It is on this ground that I am opposed to any bifurcation of studies at the intermediate stage,

and I beg to propose that instead of two separate examinations—the I. A. and the I. Sc.—there should be one examination for all candidates. The study of some science subjects may well go on at this stage with the study of pure arts subjects. As English history should be prescribed as a compulsory subject for the matriculation examination, the intermediate course in history may include an elementary course in political economy, so that if a student developes a special aptitude for the study of this subject, he may take up the higher course for the B. A. examination, whereas a student, who on learning the elementary principles of political economy at the intermediate stage, does not find the subject congenial, may very well remain contented with the knowledge he has gained, as even this slight acquaintance with the subject will certainly be of great use to him in all practical concerns of life. As for the B. A. examination, I beg to observe that the status of those who pass with honours, should be considerably improved, and only the picked students of the University who have gained special distinction at the intermediate stage, and have given evidence of superior mental capacities, should covet this honour. The honours course should be heavier than it is now, and instead of six, there should be eight papers for a thorough test of students aspiring to such distinction. Here, however, there is room for specialisation, and those who take up honours, may be allowed the concession of offering one subject less than the pass students. Those, however, who take up honours in any other subject than English, should be compelled to appear in English pass as one of their subjects.

SEAL, Dr. BRAJENDRANATH.

Most of our students take the M. A. courses, and the courses in law at the same time, which, besides increasing the strain, is a perpetual source of weakness (and cause of stumbling) in both branches of the Post-graduate Department. But the mere prohibition of simultaneous courses would be a remedy worse than the disease. For various social reasons we want M. A.'s. (and M. Sc'.s.) to multiply. They are the leaven that leavens our society. They are the strength and ornament of every profession and every service—of bench and bar, of medicine and teaching, of magistracy and finance. Our M. A's. are but higher graduates (in specialised courses) with no pretensions to original research, and there is no reason in the nature of things why this grade of humanistic culture, and a training in the science of law, a science which at once liberalises and is liberalised by the humanities, should not go together, with a proper correlation and sequence of courses and be within the reach of the average Indian graduate before he completes his twenty-fourth year. Again, from the vocational point of view, the M. A. degree gives a general passport and ensures hack-work of one sort or other, if law or any other career fails. Still, pure culture, the M. A. degree, *pur et simple*, with its economic price fixed at Rs. 50 monthly, in the Department that exists for culture, and with no guarantee that a customer will ask for it at that price, cannot obviously be the sole stay of an Indian who will presently become the mainstay of a necessitous and impecunious genteel family; hence, when he finds the doors of medicine, engineering or other professions barred for reasons for which he is not responsible, he betakes himself to the open purlieus of law and takes the chance of a prize in that lottery, with the M. A. diploma held in reserve as an insurance against bankruptcy. To postpone the independent wage-earning age for the bread-winners of a large proportion of Bengali families to an average of twenty-six (or rather twenty-eight, with a couple of years spent in beating about the bush or patron-hunting !), or to drive their scions to the compulsory choice of a single opening or egress which will probably end in a *cul-de-sac*, is not a proposition that can be lightly put forward by any one conversant with the actual economic situation or social conditions in Bengal.

My suggestions under this head are two-fold :—

(*a*) To have half-yearly courses, and examinations in compartments, in arts as well as in law, which may be taken in any order, within certain defined limits and within a certain prescribed period. This will minimise the pressure, the cram and the wastage, and in every way work for cultural gain. A great many

more courses can with benefit be put into a period of say three years, under this course system, than under the existing plan, which puts a premium on the carrying capacity of the mind considered as a goods train bound to a certain destination, and sealed against unloading or delivery on the way.

(*b*) To raise the maximum age for admission to Government service by one year. This will relieve the pressure to some extent.

Not being a lawyer, I cannot say if there are in the existing law courses any parts of legal technique and codification, which it may be possible to cut out, and leave to be properly learnt during the apprenticeship. Trespass on law is as bad as trespass against law.

The laboratory course for the M. Sc. degree makes or should make the simultaneous study of law impossible.

II.

Admission of pass B. A.'s. and pass B. Sc.'s. to the M. A. and M. Sc. courses is desirable so long as our pass and honours courses are on a three-subject basis. The ordinary graduate specialises in a particular subject in the M. A. or M. Sc. stage, and without such specialisation the scheme of a liberal university culture would be incomplete. And no specialisation, except on paper, would be possible to the Indian undergraduate in two or three years after the intermediate course (which is really the terminus of the higher secondary course), bearing in mind the average age (about nineteen) at which he finishes that course, and also the handicap of a foreign medium of study, instruction and examination. We are attempting to separate the honours course from the pass, putting the former on a two-subject basis. But we are not changing our general plan of correlated and co-ordinated studies, which is or should be (with better grouping and combination) the distinctive cultural stamp of a graduate of this university.

III.

The teaching profession (or service) is an under-paid one all the world over. In the East, till recently, and of old in the West, the teachers gained in veneration what they lost in social affluence or ease. India did something more, in making "Poverty with Learning" the acme of social respectability. In fact, if any element of the older British educational tradition is utterly foreign to the Indian soil, it is the idea of a university education (or higher secondary education) being a luxury, and more or less the monopoly of the rich, an idea which might well be the fruitful mother of many a mistake in educational policy in this land. In Hindu India (ancient and mediaeval), the State (or the nobility) provided, through the *Chatuspatis*, *Ashramas*, and *Viharas*, for the higher branches of learning and arts. To this was added the communal provision in the villages and towns for what may be called a primary practical education through grants of *Vrittis* in the Mahajani schools which were the secular successors of the old village schools in Buddhist India conducted by monastic brotherhoods. The net educational result was a free and very wide-spread system of higher, secondary as well as primary education, for a parallel to which in the Middle Ages or earlier, we must go farther East, in fact to China, Burma and other Buddhist countries. As the Hindu social system was based on a compulsory, and practically free, secondary or higher education for the *Dvijas* or twice-born classes (not necessarily priests or monks) irrespective of wealth or social position, learning became to the poor *Dvija* his portion in life. All this is now changed, and we must build up a new (and a better) system, though carefully drawing what lessons we can from the traditions of our past. To appeal to the old Indian *Adhyapaka's* (teacher's) virtue of self-denial in a modern organisation, or to seek to revive the *Gurukula* (or *Gurugriha*), would be a futile anachronism. We must provide for the teacher's respectability in the current measure of value (pay), and secure for him an assured subsistence adequate to his efficient functioning and with due regard also to that ideal of complete living, of vital breadth and expansion as well as of vital intensity and a free personality, which is the very breath of modern culture, and which we must not deny to the purveyors of that culture any more than to other labourers worthy of their hire in the communal or social organisation.

SEAL, DR. BRAJENDRANATH—*contd.*

IV.

Overcrowding in our colleges—the question of numbers. This has three aspects:—

(i) Want of accommodation as regards class room, reading room, common room, and playing field (or college compound).

All are important and essential, but some take precedence of the others. I have mentioned them in the order of priority (and importance). But several things have to be borne in mind. Our densely populated country necessitates a dense college population. Besides, a mainly agricultural population in a semi-tropical climate requires an Indian style of school (and college) architecture, with simple, neat, light, open, inexpensive structures, which will certainly not be the invention of that mighty architect, the public works engineer, whose sport it is to build, unbuild, and build again, like Brahma (or is it Visva-karma?) who has the whole of creation for his kiln and brick-field! And this is not all. If the question comes to a choice between some sacrifice of the proper accommodation, and the sacrifice or arrest of facilities for education (one not necessarily unsound because somewhat cramped), a lover of his country would unhesitatingly choose the former knowing that he is treading in the path which every country under the sun (Britain and Germany included) has chosen in the natural course of evolution.

(ii) Our tutorial arrangements.—These are not sufficient for the intermediate arts in a subject like English. The demonstrators for the laboratory courses in science are able to cope with their work, but the English tutors on the arts side are far too few for the large classes in the greater colleges. There has been some improvement, of late, which requires to be accelerated.

(iii) The complaint of crowded classes at lecture-time is a very curious one. A low voice, or funk in facing a crowd, is one thing; the contention that the value of a lecture is diminished by sharing would be another. I should think that when once we get a lecturer of the right sort (and it is our business to find him), the more young men come and sit at his feet, the better it is for their mental health. And to require the lecturer to repeat his *impromptu* before cut-up audiences is to require the impossible: that is the way of the machine-made cast-iron man, or of the speaking wax figure in a sort of Barnum show; —at any rate there is a loss of energy, freshness, novelty—in one word, of inspiration. And those who object to an audience of 150 (or even 100)—I am speaking now of a *bonâ fide* lecture, not a "coaching-cum-conversation" class, or a tutorial "seance"—forget certain happenings, perhaps not very rare, in their own (quondam) academic world. For the rest, beneath this inveterate prejudice against large audiences in certain quarters, there is a psychological principle at work: to some temperaments comes the dread of the mob, to others the sympathy, if not the inspiration, of numbers! And if the cultured Hindu, by faith a monist, perhaps even a metaphysical nihilist (in the absolute), longs for the sympathy of numbers, while his equally cultured brother, praying for "kingdom come" and looking to the millennium, should be haunted by the dread of the mob, it is quite in accordance with the law of compensation in spiritual values, a law—I may point out—which is but the analogue, in the region of values, to that principle of regression to the type, which maintains the balance of the living organism, in the individual as in the race.

V.

It is sometimes urged that to insist on physics and chemistry, not to speak of biology, as compulsory subjects, would mean the disaffiliation or disestablishment of many of our colleges. But this contention deserves to be closely examined. As a matter of fact, our colleges with the exception of a straggling half-a-dozen (or so), teach some experimental science or other, and have a laboratory for practical courses, and 55 per cent. or more of our students, reading for the intermediate examination, offer a science subject. It should not be altogether impracticable to undertake the science teaching of the remaining 45 per cent.

An additional outlay of some five lakhs would be amply sufficient, and the recurring charges of the upkeep could be met from the "fee-income" by raising the college tuition fee (of some 8,000 intermediate students) to the level at which it stands for the science classes. Surely science is a first charge on the funds of the Education Department, and the five lakhs could be spread over a number of years. But in the absence of such grants it will not be difficult to raise the amount by donations and subscriptions in the country for so vital a purpose as this.

Elementary science in our schools also ought not to be impossible. I would submit that we have gone the wrong way in proceeding about this business of science teaching. We have made too much of expensive equipment—of work tables and room space on too lavish a scale for the needs of elementary science. For the Matriculation, elementary practical lessons in biology could be given at a small cost, and after the initial outlay, the recurring cost would be small. The same is true, in great measure, of elementary chemistry. The entire cost could be met by raising the school fees by a small fraction. For modest beginnings, the initial cost, I am sure, would be defrayed by the same private liberality which keeps going the larger part of the machinery of secondary (high school) instruction in this province, and this may be eked out by *pro rata* departmental grants.

We, Bengalis, are backward in sense-training and in mechanical and manipulative dexterity (excepting, in part, our hereditary artisans), and it is not merely our brains and our physique that suffer. Our prospects of industrial advance as a people are bound up with those of our scientific education. A writ of "Mandamus" is necessary to overcome the "*non-possumus*" of our "pure culture" men! Who will issue this "Mandamus?"

SEN, ATUL CHANDRA.

I would like to give a brief outline of the changes which, I think, should be gradually introduced in the existing system of high education in this province.

First of all I would like to divide the entire educational life of a student into these stages :—

(*a*) The secondary school stage.
(*b*) The high school stage.
(*c*) The collegiate stage.

In the secondary school stage the course of studies would correspond to the present matriculation standard, but instead of ending with a university examination, it should end in a school final as regulated by the councils of education under which I would like to place all secondary schools. The age at which the student should generally leave this stage may be fixed at fifteen instead of sixteen as at present. The courses of study should be all compulsory and comprise the following subjects :—

(*i*) English.
(*ii*) Vernacular.
(*iii*) Elementary mathematics.
(*iv*) History and geography.
(*v*) Elementary science, including physics, chemistry, physiology and hygiene.

The medium of instruction as well as examination should be the vernacular in all subjects except English.

The high school stage should cover a period of three years generally from the age of sixteen to eighteen. The course of study will correspond to the existing I.A. and I. Sc. courses. Here for the first time a bifurcation of studies may be allowed. There will be two courses—one for arts students and the other for science students. For the arts course I would suggest English and vernacular (compulsory) and any three of the following subjects :—

(1) History.
(2) A classical language.
(3) Mathematics.
(4) Elementary courses of logic and psychology, economics and hygiene.

SEN, ATUL CHANDRA—*contd.*

For the science course—English, vernacular and mathematics (compulsory), and any two of the following subjects :—

(1) Physics.
(2) Chemistry.
(3) Zoology.
(4) Botany.
(5) Physiology.
(6) Hygiene.

The medium of instruction should be the vernacular as far as circumstances permit.

After a three years' course during which the student is expected to acquire a sound knowledge of the subjects offered by him, he will have to pass his Matriculation which will be a public examination held by the different councils of education. Students desirous of studying law, medicine, engineering, agriculture, commerce, technology, etc., should leave school at this stage and join the institutions specially intended for them.

A student who has passed his Matriculation in the first division or who has passed a preliminary college test will be permitted to join an academic college for general education under the academic universities. Here he will prepare himself for the B. A. or B. Sc. degree as the case may be. The B. A. or B. Sc. course will cover a period of two years and a student who has joined a college at the age of nineteen will be graduated when he has completed the age of twenty. The examination will be conducted by the University and the degree conferred by it. The successful candidates will be placed in three classes as follows :—

(1) Those who have passed with honours.
(2) Those who have passed with distinction.
(3) The ordinary graduates.

The medium of instruction and examination should generally be English.

Students who have passed the B. A. with honours or distinction should be permitted to join M. A. or M. Sc. classes. The M. A. or M. Sc. course should cover a period of three years. During the first two years the student should attend lectures in the subject offered by him and in the last year he must do some independent work under the guidance of the university professors and the work done by him during this year will be taken into consideration in conferring the degree.

I should classify the future universities of the province under three groups:—

(1) Academic universities, having three faculties, *viz.*, arts, science and teaching.
(2) Universities of professional studies including law and medicine.
(3) Universities for technological studies including engineering, commerce, agriculture and different branches of technology.

As regards academic universities I would suggest that there should be at least three such universities in the province—one at Calcutta, another at Dacca and the third at Rangpur or Rajshahi. These three places will be the university towns and centres at all kinds of high education. The universities of professional and technological studies should be located at Calcutta with colleges and schools affiliated to them throughout the province.

The academical universities should mainly be teaching and residential bodies but not entirely so. The University and the constituent colleges together with hostels and messes may well be located at the suburbs outside the university town, but one or two colleges must be situated in the heart of the town which will be attended by boys living with their parents, guardians or patrons. There must also be a few external colleges affiliated to each of these universities so as to afford facilities of education in the mofussil.

The constitution of the Senate is also a matter of importance. The majority of the members of the Senate should be elected by the teaching staff of the constituent colleges, a portion nominated by Government and another portion by the councils of education.

The education at school should be controlled by academic councils of which there should be at least three—one at each university town. The secondary school examin-

ation should, as I have said before, be a school final and the high school examination should be held by these academic councils. They should frame rules for affiliation of schools, lay down conditions of study in them, and in short all the work now done by the University for secondary schools may be transferred to these councils. They will also have their inspecting staff and the entire control over high and secondary schools may be left to them.

These councils should have a very liberal constitution consisting of members elected by public bodies, some being nominated by Government and the universities. Muhammadan interests should also be represented. They must be self-governing bodies and not branches of the Education Department.

Of the high schools as described above, there should be at least one at the headquarter station of each district either as a separate institution or the higher department of a secondary school. The multiplication of these high schools in the mofussil will necessarily relieve to some extent the congestion of students in Calcutta.

SENAPATI, M.

In I. A. and B. A. examinations the students are required to study certain subjects (*e.g.* logic and philosophy) as defined by the syllabus. A large number of books are generally recommended for the use of the students. Thus in the I. A. in which a student has to take up 5 different subjects, not less than 7 books have been recommended in logic alone for 1917 and "students are recommended to use one or more of them or select portions thereof, with special reference to the course laid down in the syllabus." In the B.A. in which a student has to take up 4 different subjects we have in philosophy (pass) for the same year 19 books recommended for the use of the students to study the subject according to the syllabus.

It is impossible for students to study all the recommended books and hence to prepare themselves for the examination. They are therefore always in a state of uncertainty as to the nature of the questions they are to expect. Further, as a consequence, the course of instruction followed in such subjects in different colleges is necessarily different though the examination for them all is one. Different books are taught in different colleges and in some the students depend entirely on the notes dictated to them by their teachers. These notes, however exhaustive, cannot cover all the necessary points discussed in all the recommended books. Under such circumstances there can be no adequate preparation for the examination and success in it will always remain precarious. The setting of alternative questions does not remove the difficulty altogether.

It is necessary therefore that only a limited number of books be recommended in such subjects and that questions be such as can be answered with the help of these.

SEN GUPTA, SURENDRA MOHAN.

There is a very great craving for education in Bengal at the present time. But the people who come in for education are very poor. The increased expenses of education are bringing in financial ruin to many a family as well as to individuals. The result is disastrous to the cause of education and the healthy growth of the rising generation. What we require in education is the economy of money as well as in the time of a student consistent with the proper training of mind and body. So that if possible we should try to lessen the number of years necessary for the courses. In settling the syllabus and courses we must keep in mind that what was considered to be within the range of specialised teaching a generation ago is now well adapted to the needs of general training. The last University Commission was therefore a retrogade measure. It seems that when they set up the matriculation standard they forgot to judge the middle English standard of that time on the one hand, and the necessity of broad general training on the other. They unduly lengthened the school course and put in an arbitrary age limit for the final

SEN GUPTA, SURENDRA MOHAN—*contd.*

examination of the school. The present ten years' school course may be shortened to eight years and the medium of instruction and examination should be vernacular. No text-books except in literary subjects will be set up by the University which will lay down only the syllabus of study—not sharply but will allow some latitude to the teacher in that respect. The teachers will prescribe their own text-books. In order that practical scientific study in the college should be real and not merely mechanical it is necessary that the student should have early demonstrative training in scientific subjects in the school classes. Biology, physiology, physics, chemistry and geology should be taught in the schools with the help of class demonstrations and cards where necessary.

The poverty of the average student is not exaggerated and in organising educational institutions care should be directed to the economy of the available resources. The present hobby of Bengal educationists seems to be first brick and mortar, second furniture, third costly appliances, fourth inspection—if anything more be available,—which it is seldom in India,—then payment to the teachers and other necessities for the mental, physical and moral well-being of the taught. In former times in India the first four requirements were not considered to be necessities for education. Students were placed in similar environments in schools as they were in their homes, but the present tendency is to isolate them; to make that isolation worth living, all the grandeur and pomp of the rich institutions of the richest country are brought within the reach of the sons of poverty-stricken people of this country. It has therefore tended to restrict education to the richer people and has brought to existence a new caste of English educated men. Initial requirements for schools and colleges should not be made too high; schools and colleges should be encouraged to grow so that when they are organised rich people may be induced to endow them.

As stated above, the school course of eight years should be divided into two stages of four years. In the first stage English and Sanskrit should be introduced in the last year only. In the second stage all the subjects at present taught in the schools together with the scientific subjects mentioned above, should form part of the curriculum of the school. The final examination will be held in each school separately and not by a general examination board for the province of Bengal. Government will hold a scholarship examination for the province for those students that will offer themselves for examination.

Preliminary university course should be of four years leading to the B. A. examination. There should not be a university intermediate examination but there may be two parts for the B. A. examination which may be taken up separately or jointly at the option of the student. In this stage also the medium of instruction as well as of examination should be the vernacular. Sound knowledge of English and Sanskrit literature from prescribed text-books should be insisted on. Syllabus of study for both the stages should be periodically revised and advanced. Pure scientific training for getting a degree in medicine, engineering, commerce and agriculture should be separated from practical training and incorporated with the B. A. and B. Sc. degrees in this preliminary university course. Games should be compulsory for students of schools and colleges. Moral training from the lives of illustrious men of the locality—ancient and modern—should form a part of the school course. Abstracts and practical moral training should be compulsory for students of the college classes, non-tutorial sections in collegiate classes should not generally be of more than 75 students. In mofussil centres the relation between the teacher and the taught is more intimate than in the metropolis of the province. Teachers and the taught live nearer together and have more opportunities of mixing than is possible in big towns. In mofussil centres therefore the seventyfive limit suggested above may be relaxed. Effort of the University should be directed to the formation of greater number of colleges in villages and smaller subdivisional towns. Recognised teachers of standing may be encouraged to form themselves by incorporations into schools and colleges (vide *tols*). At the present stage of education teachers in preliminary university or college course should not be hindered to teach more than one subject when necessary.

In all stages I do not consider that the examination should be conducted by teachers alone. Examination should be conducted with the help of external and internal examiners.

SHARP, The Hon'ble Mr. H.

I should like to add a word on the organisation of university courses.

(*a*) The system of allowing a wide choice of combinations seems to me defective and to some extent interferes with college routine. Thus, under the present system, a B.A. student has a wide choice of combinations, in some of which the subjects have little or no relation to one another. Schools of study should preferably be prescribed. Seven, or at most ten, such schools might reasonably be arranged for pure arts subjects, including mathematics.

(*b*) The study of English literature should not be made compulsory. By the time a student has reached the beginning of his third year he ought to have a fair working knowledge of English. Thenceforward, his knowledge of English may be left to develope through the special school of study which he selects. In certain schools, however, it would be well to continue a modified study of English literature. Thus, there might be a school of English literature, in which this would form the principal subject, with English history and either political economy or a classical language as secondary subjects. But the schools of philosophy and mathematics might include a less elaborate course of English literature as one of the secondary subjects.

(*c*) Science subjects should not be included in the B.A. course.

I consider that such an arrangement would have many advantages. Among others, it would facilitate the suggestions made under questions 11 (*ii*) (*d*) and 12. The study of English literature (as apart from that of the language and of subjects in the language) would not be imposed upon all students. A school of vernacular might be started, with vernacular as the principal subject and the lesser course of English literature and either Indian history or a classical language as secondary subjects. But the great advantage of such a scheme is that students would no longer pursue "scrappy"-courses.

If the change were considered too violent at first, it might be introduced in the honours courses to begin with.

STARK, H. A.

Before proceeding to make any proposals with reference to the directions in which a readjustment of the curricula for the B. T. and L. T. examinations should be made, and the means whereby training colleges may be brought into living relationship with the University or the Central College, it may perhaps be useful to indicate the respects in which the existing plan of work for the B. T. and L. T. examinations is defective.

(i) In the first place it is defective because the differentiation between the B. T. and L. T. courses is vague, except that in the former the history of educational ideals is included, and not in the latter. In chapter XXIX of the new (1906) regulations of the University, under the heading "English" it is stated "the work shall be of the same standard of difficulty as the B.A. pass English text." I do not think any one can tell precisely what that standard is. Again, chapter XL states that the theory and method for the B. T. course shall be "the subjects prescribed for the L. T. treated more fully"—meanwhile the grade of work to be done in these subjects in the L. T. course has not been defined. Further, the regulations are entirely silent as to:—

(*a*) Whether B. T. and L. T. candidates must attain the same degree of efficiency in the practice of teaching;

(*b*) Whether they should alike teach up to the highest class of high schools;

(*c*) Whether men who have served as teachers for one academic year before their admission into a training college need give any lessons under observation—those who have had no previous teaching experience being required to give 50 lessons.

STARK, H. A.—*contd.*

(ii) In the second place it is defective because a one year course, which in actuality works out to a nine months' course is entirely insufficient whether for B. T. or L. T students. In the intermediate arts examination the subject of psychology finds no place, and many candidates do not take it for the B.A. or B.Sc. examinations. During their one year in a training college these men have to learn mental and moral science, with a certain amount of physiology, experimental psychology, and child psychology thrown in. If they moreover did no history for the intermediate or bachelor's examination—and there are thousands of graduates and undergraduates who have never looked into a history or a geography book from the time they were fourteen years of age—the position becomes impossible. For without any knowledge of history it is very obvious that a B. T. student cannot effectively study the history of education. But apart from this, men coming into training without a knowledge of history and geography, have first, in the college, to learn the contents of these subjects preparatory to teaching them in the practising school.

(iii) In the third place it is defective because it assumes that candidates for the L. T. and B. T. examinations have a comparatively proficient knowledge of English. This assumption is not justified in the great majority of cases, and notably so in the case of men who have kept to the physical science courses. The mistakes perpetrated by graduates—not to speak of under-graduates—in simple English grammar and composition is truly appalling, and mistakes in spelling are common. Generally speaking, it is imperative that the men coming in for training should be regrounded in English; but for this there is no time.

(iv) In the fourth place it is defective because in the high pressure if only to learn the text-books, prescribed for the B. T. and L. T. examinations by the University, there is no time for students to do any reading outside and beyond the specified books; no time to reflect upon what is being taught in lectures; no time to appreciate or assimilate new thoughts and ideals. It is to be feared that many who come in for training after having been teachers for some years, take their teaching diplomas without being convinced of the error of their past methods of imparting instruction, or converted to more scientific methods of handling their classes.

Having set forth briefly the four respects in which the existing plan of work for the B. T. and L. T. examinations is defective, I would now suggest how improvements might be effected.

(i) The qualitative and quantitative difference between the B. T. and L. T. examinations should be clearly defined. This ought not to present much difficulty.

(ii) If the B. T. and L. T. courses cannot be conveniently spread over two years—and there are reasons why they cannot easily be so spread—the subjects offered by men at the intermediate and bachelor's examinations should so lend themselves for selection that in taking these examinations students may anticipate an appreciable portion of the work prescribed for the L. T. and B. T. examinations respectively. Details will have to be worked out. This measure will not, however, come to the assistance of those who have already passed the I.A. or the B.A., or the I.Sc. or the B.Sc. examinations. And as these men must for several years to come be admitted into training colleges, I see no alternative to their undergoing a two years' course in these colleges. Incidentally it may be remarked that my substantive proposal in this paragraph tends to stimulate men while yet at college to decide upon adopting teaching as a definite profession. At present, most men take to teaching as a last resort. Further, should a man not come in for training after he has done a part of the training college course in his I.A. or B.A. course, he will presumably be better equipped for teaching than he would be otherwise.

(iii) The practical side of the L. T. and B. T. examinations should include an *oral* test of proficiency in that language.

(iv) If my proposals against (ii) above be adopted, the defects mentioned in (iv) will be remedied to a considerable extent.

My proposals may be thus displayed :—

FOR THE B. T. EXAMINATION.

First year.

In the third and fourth year classes of an arts college.	In the first year of a training college.
A. Along with the subject of mental and moral philosophy— Physiology, child psychology, elementary experimental psychology as alternative to a group of text-books in mental and moral science.	A. Physiology, mental philosophy, and selected portions of moral philosophy, child psychology, elementary experimental psychology.
B History of education (including the history of modern education in Bengal) as alternative to appointed text-books in, say, a specified period.	B. History of education including the history of modern education in Bengal.
C. Selected English educational classics, as alternative to a group of text-books in English classics prescribed for the B.A. examination.	C. Selected English educational classics.

N.B.—Identical text-books throughout will be prescribed in the above for the B.A. and B. T. examinations. In arts colleges the subjects in A, B, and C, will be lectured upon by the principal and professors of a training college in the same classes with students in the first year of the training college, whenever this arrangement is possible. This plan will bring the training college into corporate relations with the University.

Second year.

At Training College *alone*—

1. Revision of the contents of school subjects.
2. School organisation and discipline.
3. Methods of teaching—general and specific.
4. Child study.
5. Oral English.
6. Physical education and organised games.
7. Practice of teaching.

The scheme for the L. T. examination may be related to the intermediate examination, in studying for which a student may do a portion of his L. T. course. History should for him be a compulsory subject in the I.A., and in the L. T. course; he should learn the history of education in India and the history of education in modern Bengal. He should take up also geography in the I.A.; likewise very elementary psychology. The standard of the I.A. examination being lower than the standard of the B.A. examination, the course of studies in each of the subjects for the L. T. examination should be easier than in the corresponding subjects in the B. T. examination. The studies in the second year, to be put in at a training college alone, may possibly be identical.

STEPHENSON, Lt.-Col. J.

The university course begins too soon, finishes too soon and consequently the students and the public are under the impression that a university course has been given, when in fact it has not.

STEPHENSON, Lt.-Col. J.—*contd.*

The ordinary clever boy passes his matriculation examination at fifteen, and his B. A. at nineteen,—obtaining his degree at the age when an English boy is beginning his university course. Some universities allow the M.A. to be taken in one year after the B.A.; but supposing the student takes two years, he is an M.A. at twenty-one,—and this after having gone through the whole course in a foreign language. It is I think obvious that there can be no comparison between the standards reached in India and in England.

During *at least* the first two years of college life the students are doing school work; this should be frankly recognised. University teaching should begin after the present intermediate; and a four years' course should then be given for the B.A. degree.

It appears from the proceedings of the recent Conference of Director of Public Instruction that the number of teachers at present employed in university colleges in this country is much below that in England relatively to the number of students. It will, I suppose, be admitted that their average attainments are also considerably below those of teachers in English university colleges. It would seem necessary therefore that there should be a general strengthening of the body of teachers.

The question is, where are they to come from? It seems rather doubtful if any large supply can be expected from England, even after the war; presumably with the expansion of both secondary and higher education that is to be looked for, England will absorb most or all of the capable teachers she produces. The conditions of Indian university life and university teaching being what they are at present, it would be unreasonable to expect a large supply of Indian trained graduates capable of giving the highest training spoken of in question 1. The third source of teachers is England-trained Indians; of these there are a considerable number, though the number is very much smaller than would seem probable. In my experience the very large majority of Indians who go to England for further study go for the Indian civil service, the Bar and medicine; after taking out these, and those who go, in smaller numbers, for engineering and technical training, the residue is small. This residue has to be still further reduced so as to include only those who are fitted by their aptitudes and personal leanings to take up university life; and it seems doubtful if, then, it will suffice for the purpose of bringing up the number of teachers to what is requisite. Most of them are probably already employed.

If the number of teachers is thus limited, and likely to be limited, the only alternative, in order to get real university teaching seems to be to reduce the number of students. The Commission will be familiar with the general level of acquirements which is thought sufficient to enable a student to enter on a university course; a trifling illustration may be given, because it is still fresh in my mind. Yesterday morning I met a student in the college grounds, and spoke to him; after asking him a few ordinary questions, I began to speak to him in Urdu, thinking that he had had only a very elementary school education and was not a college student at all; he was, however, a student of a neighbouring college.

It is pretty obvious that a large number of students are not fitted for a university course at all; if these were excluded, something more like justice could be done to the remainder; and if, of these, those who are not fitted to go beyond the B.A. could be stopped there, those who are fitted for the highest training would have more chance, even under present conditions, of getting it. There are a number of teachers, both European and Indian, who would willingly give the highest training in their subjects,—who strongly desire to do it,—but who are debarred from doing it because their energies are too much taken up with unfavourable material; the conditions do not allow it.

The ideals of educational bodies are too low, and the same may be said of the body of the students. Educational bodies in general wish, or act as if they wished, to turn out a large number of pass B.A.s; they choose quantity rather than quality. The students in general look on the degree as of value in securing an appointment only,—not on their education as a good in itself. The point of view is utilitarian,—and utilitarian in a narrow sense. There seems little appreciation of the excellence of a life of scholarship and research.

This is a hopeless attitude from a university point of view. There must be a revolution in ideals before a university can be worthy of the name. Some considerable proportion of the teachers and of the members of the governing bodies of the University and its colleges must believe—really believe and not do lip-service to the

principle,—that education is good in and for itself alone; and the teachers must believe that one of the greatest goods is to be allowed to lead a life of scholarship and research, while kindling their own enthusiasm in others and imparting their own stimulus to successive generations of students.

The main point therefore is to start with the teachers; men must be found with ideals of the kind mentioned; they should not be too strictly tied down in their work, and should not be overburdened with routine. The ideal is not foreign to the Indian character, though it is swamped at present,—it is to be hoped only temporarily.

SUHRAWARDY, The Hon'ble Dr. ABDULLA-AL-MAMUN.

The M.A. course in Arabic and Persian should be divided into the groups mentioned below.

The first four papers of each group shall be identical and shall cover the following subjects :—

Paper I.—General history of literature.
Paper II.—The Quran.
Paper III.—Grammar, rhetoric and prosody.
Paper IV.—Philology.

ARABIC.

GROUP A.

(*Literature.*)

Paper V.—Poetry—pre-Islamic.
Paper VI.—Poetry—post-Islamic.
Paper VII.—Prose—classical and modern.

GROUP B.

(*Exegesis of the Quran.*)

Paper V.—History of the Koran and Usul Tafsir.
Paper VI.—Usul Hadith.
Paper VII.—Hadith.
Paper VIII.—Essay.

GROUP C.

(*Jurisprudence.*)

Paper V.—History of legal institutions and Usul Fiqh.
Paper VI.—Fiqh.
Paper VII.—Ilmul Mawarith.
Paper VIII.—Essay.

GROUP D.

(*Philosophy.*)

Paper V.—Falsafa (Ilahiyat) and the history of philosophy.
Paper VI.—Mantiq and Ilmul-Munazara.
Paper VII.—Ilmul-Kalam and Akhlaq (theology and moral philosophy).
Paper VIII.—Essay.

GROUP E.

(*Science.*)

Paper V.—Tabiyat (physics).
Paper VI.—Riyaziyat (Mathematics) and Ilmul Falak (astronomy).
Paper VII.—Ilmul-Kimiya wa Ilmul Tibb (chemistry and medicine).
Paper VIII.—Essay.

GROUP F.

(*History.*)

Paper V.—History of Islamic culture and civilisation.
Paper VI.—History of Islam in India and Central Asia.
Paper VII.—History of the rise of Islam and the Caliphate.
Paper VIII.—Essay.

PERSIAN.

GROUP A.

Paper V.—Poetry—classical and modern.
Paper VI.—Prose—classical and modern.
Paper VII.—Drama.
Paper VIII.—Essay.

GROUP B.

Same as in Arabic.

GROUP C.

Same as in Arabic.

GROUP D.

Same as in Arabic.

GROUP E.

Same as in Arabic.

GROUP F.

Paper V.—History of Islamic culture and civilisation.
Paper VI.—History of Islam in India and Central Asia.
Paper VII.—History of the rise of Islam and the Caliphate.
Paper VIII.—Essay.

THOMPSON, The Hon'ble MR. H.

I regret that my knowledge of the Calcutta University system is not sufficient to enable me to reply in detail to the questions of the Commission.

My note will be confined therefore to certain general comments on the working of the present scheme of higher education in Burma, these criticisms being directed to the results produced rather than to the methods employed.

A grave defect to which I consider that particular notice needs to be drawn is that a university degree is sought after in this province mainly as a means to a lucrative Government appointment. It was decided some years ago by the local Government

THOMPSON, The Hon'ble MR. H.—*contd.*—WEST, M. P.

that a proportion of the vacancies in the subordinate civil service should be filled annually by selection from Burmans who had obtained the B.A. degree. Since this offer was made there has been a rapid increase in the number of students who have entered for and obtained a degree, those who have succeeded apply in almost every case for one of the appointments in the subordinate civil service and those who fail to secure such an appointment are compelled to content themselves with clerical or other subordinate posts.

The reason for this concentration on Government employment is to be found, partly at least, in the fact that we have no leisured classes in Burma, whose future livelihood is assured, and who regard education as a means of rendering them better fitted for the walk of life which they would have adopted under any circumstances. Education in this province, both in its higher and its lower branches, is and must be looked upon largely as a means by which a future livelihood can be obtained. A course of higher instruction, however sound it may be from a purely educational point of view, will not meet the needs of the province unless it is framed in direct relationship with the possible avenues of employment for passed students.

It follows that the University, before framing its course of studies, should make a careful examination of the existing arts and industries in the province and of the possibilities of future development and should frame a syllabus of work which will provide the students with a suitable equipment for the branches of life in which they are likely to find employment. There are many openings in Burma for well-educated men,—engineering, mining, forestry for example, to mention a few only on the industrial side —which are unfilled at present because of the failure of the present university system to interest its students in these branches of work.

I do not wish to imply that a university education should be entirely specialised and that a student should confine himself mainly or wholly to those branches of study which will be of particular service to him in after life. A sound general education will be of more real value than specialised study, provided that such a general scheme is not dissociated from the branches of employment available for students after they leave the University. A student who has completed the ordinary course and taken his degree should be enabled to take up some particular subject such as agriculture, metallurgy, etc., and to obtain a diploma in such subject.

Burma is a province with undeveloped resources in every direction and there is here a pressing need for technical research. It would be of great advantage that the University should form the centre and be the guiding spirit in all research work, and that it should be so organised as to permit of such work being undertaken. Technical instruction would ordinarily be imparted in separate schools or institutes, but research work in its higher branches should be focussed in the University.

WEST, M. P.

The control of schools and of the school-leaving examination should be entirely removed from the University and placed in the hands of the Department with a consultative body of persons acquainted with school work.

The intermediate course should be made a part of the school course and be removed entirely from the colleges.

All education should as far as possible be in the vernacular, English becoming only a "second language." The curricula of the schools and colleges should be reformed accordingly. As a corrollary I suggest that all non-Bengali professors of colleges should be required to pass an examination equal in difficulty to the missions test before they commence their duties or draw full pay.

The system of "combinations" requires drastic revision. Courses should allow less options. Continuity of subject should be encouraged.

The work of the training of teachers should be entirely removed from the University and the B.T. and L.T. replaced by a Government diploma.

Oral Evidence.

BANERJEE, Sir GOOROO DASS.

7th February 1918.

The witness amplified the suggestions brought forward by him in the memorandum below.

Improvements in the systems of primary and secondary education are necessary as groundwork for improvement in the superstructure of university education.—The faults, which require to be corrected and which produce evil effects of an enduring nature, are the following :—

(*a*) The introduction of subjects of study which are beyond the capacity of students at the stage of their progress at which they are introduced,—especially science subjects, as distinguished from simple nature study or easy lessons on things, which should certainly be encouraged and insisted upon to exercise the powers of correct observation.

(*b*) The use of text-books entering into details and principles beyond the capacity of the students at the stage of progress they have attained.

(*c*) The imposition of home work of quantity and quality which is beyond the capacity of students to perform, which necessitates the work being done not *by* them with reasonable aid, but *for* them by their private tutors, and which fails entirely in its educative effect and engenders the demoralised habit of dependence on the private tutor and the despondent feeling of helplessness without his aid, to say nothing of the deleterious effect of it on the health of the boys.

(*d*) The practical transformation of the school into a daily *examining* board, examining work imposed, instead of being a teaching agency to impart instruction to, and evoke the mental powers of, students.

The university regulations require attendance at 75 per cent. of lectures both at the under-graduate and post-graduate stages, and no deficiency of even a small fraction can be excused except by the Senate on the recommendation of the Syndicate and the college authorities. A rule so rigid has led to most culpable and demoralising attempts at evasion by what is known as attendance by proxy. The rule should either be abrogated altogether, and lectures left to attract attendance by their intrinsic merit, or the minimum should be reduced to 50 per cent.

Improvement in the courses of study by reducing their quantity which makes thoroughness of study unattainable, and by leaving out unsuitable books, such as books of criticism of authors very few of whose works have been read by the students, and diffuse and verbose text-books.

Discouragement of the use of keys and abstracts, and encouragement of and insistence on the making of abstracts and summaries of text-books by the students themselves.

Improvement in the system of examinations by discouragement of the setting of questions too minute or too difficult, except one or two in each paper for the purpose of discriminating candidates of superior merit from those of average merit. As a rule, only such questions ought to be set as will test the candidates' knowledge of the broad principle of a subject. It is a lamentable waste of time and energy to make examinees encumber their heads for purposes of the examination hall with loads of learned lumber which prove of little avail in later life.

Unsuitable school books.—Reference was made to certain school books used in schools with the approval of the text-books committees which were unsuitable and beyond the capacity of the boys concerned. Specific instances were given.

Excessive school work.—The quality and quantity of homework expected from the pupils by the school authorities are excessive. In consequence, the schools are becoming examin-

BANERJEE, Sir GOOROO DASS—*contd.*

ing bodies to a greater extent even than the universities. The primary function of the school now apparently is to examine the work done by the pupils at home. So much is this the case that there is very little class teaching in the schools. The health of the pupil, therefore, is being undermined and a taste for reading and real study discouraged. The work at home is often done by a private tutor instead of by the pupils themselves. Though the majority of boys at school are drawn from the poorer middle classes, about 30 per cent. of them are obliged to have private tutors. In practice, if a guardian has the means he employs a private tutor; and those who are unable to have private tutors cannot complete their work satisfactorily. The practice of employing private tutors is of recent growth and was unnecessary in the olden days when different conditions prevailed. Practically almost every teacher supplements his income by private tuition. The fees for private tuition are generally greater than the school fees. The best solutions of the difficulty would be to reduce the home work, and to raise the pay of teachers so that they could not have the opportunity, and would not be under the dire necessity of undertaking private tuition.

Training of teachers.—No great improvement in school methods can be expected from the expansion of training facilities for teachers. The trained teacher is apt to become mechanical. Intelligence and natural love of teaching are of greater importance than training. A good teacher will try to relieve his pupils from the difficulties which he himself experienced as a boy at school. Great care, therefore, should be taken in the selection of teachers. Improvements should be made in the methods of training teachers so that they should not become mechanical. If this were done the study of proper principles of teaching might conveniently be included in the university course.

Rigid attendance at college.—The college students have attained sufficient maturity of understanding to know their own requirements. The imposition of hard mechanical rules in regard to attendance at lectures drives students to lamentable and demoralising dodges to overcome the regulations. The Syndicate and Senate have sometimes acted harshly in refusing *bonâ fide* petitions from students who have not attended a sufficient number of lectures in accordance with the regulations. Students should belong to colleges, for even the worst college has disciplinary value, but compulsory attendance at lectures should not be enforced. The professor would improve the value of his lectures if he knew that the number of his listeners depended upon the quality of his teaching. Inefficiency should not be propped up by artificial means. The main fault of this compulsory system of attendance at lectures is that the number of lectures being excessive the students are apt to sit in apathy while the discourse is being delivered; and, in addition, much valuable time of the Senate and the Syndicate is wasted in disposing of applications for dispensing with the rule of attendance in numerous cases. This rigid attendance at lectures was imposed by the Legislative Council at the time when the last Universities Act was passed. The majority of the Council had not sufficient confidence either in the members of the college staff or in the students.

Courses of study.—The courses of study are too long and especially those in Sanskrit and mathematics. The selection of books has been much improved during recent years.

" *Keys and abstracts.*—The practice of memorising dictated notes and text-books by students is " almost universal. The amount of labour involved is enormous, but the benefit is *nil.* The professors should insist on each student making his own summary. The student should remember that elaboration is not condensation. For the better understanding of this principle, logic should be a compulsory subject of study in the intermediate course. It would be well if boards of studies made it a rule that the authors of "keys " be not appointed examiners. Professors should do everything in their power, to prevent students from using " keys." Examiners should be required to insist that candidates answer the question papers in their own words. The examination questions should be so framed as to discourage cram, and insistence on an excessive knowledge of detail should be avoided. The present system of examinations in Bengal is a serious evil.

Improvements in the administration of secondary schools.—Private initiative and enterprise should not be checked by a Government department. In the absence of any other organised body the University should undertake the recognition of schools, but it might be conducive to better supervision if a special committee of the University were appointed

for this work. The University represented public opinion, Government and other interests, and therefore is a suitable body to undertake the supervision of schools. The constitution of district sub-committees to assist in the work would be beneficial.

Second-grade colleges.—The witness had found no reason for changing the opinions expressed by him in his minute of dissent to the report of the Universities Commission in regard to second-grade colleges. As there are more students reading for the intermediate than for the B. A., more institutions are needed for the former than for the latter. Second-grade colleges, therefore, serve a useful purpose. These colleges should not be relegated to high school work, nor should high schools be encouraged to undertake the intermediate work.

Agricultural, industrial and commercial training.—Sir Gooroo Dass referred to the necessity and possibility of the University providing such training. The University has recently recognised the necessity of undertaking such work. The new subjects will be taught in the Government Commercial Institute and other places. The university sub-committee has hopes that certain business firms will take in apprentices. A model farm has been offered for the purpose of agricultural training.

BOSE, G. C.

27th February 1918.

Defects of the present system.—The present system of university education attaches too much attention to examination and too little to teaching; it is also too rigid and is ill-adapted to the growing needs of the country. In recent years the number of admissions to colleges has been too large for the attainment of better ideals. The students are often insufficiently equipped in English to benefit by a university training. There is also a sad neglect of the vernacular. The teaching of drawing, science and geography in schools is both inadequate and inefficient. The witness considered that the present state of affairs threatens the development of national life with disaster.

Means of improvement.—The witness offered the following suggestions:—

(*a*) The intermediate examination should be abolished. The university course might then be one of three years. It should then be the duty of colleges to regulate the promotion of students from one year's class to another.

(*b*) The examiners should be given a freer hand than at present.

(*c*) Compulsory attendance at lectures should be abolished. The students should be permitted to attend such lectures in the college as they choose. If the lectures are good, they will be well attended. There should, however, be compulsory attendance at college.

(*d*) Increased grants should be given to colleges.

Tutorial guidance.—The witness desired to do good work with a small number of students and wished to deal with them individually. The numbers, however, are such that it is impossible to divide the students up into small groups for suitable and adequate tutorial instruction.

School training.—Schools should aim at imparting an all-round more or less practical education, complete by itself so far as it will go. The University might accept the final examination of the school-course as a qualification for entering the University, or set up a Matriculation examination of its own as they do in some of the English universities.

Honours courses.—Inter-collegiate arrangements are difficult. These difficulties are connected with the drawing up of the college time-tables rather than with moving about from one college to another for lectures. The teaching of the honours courses should be distributed, as now, in the colleges and not concentrated in the University.

Post-graduate instruction.—The time has been insufficient to test the new organisation. The witness, however, disapproved of the concentration of teaching in the University. The colleges have been reduced in status by the new arrangements and will suffer from this total estrangement from and dissociation with higher teaching.

RAY, Sir P. C.

11th February 1918.

Honours and pass courses.—The witness was in favour of drawing a more definite distinction between the honours and pass courses than exists at present, but he saw difficulties in the way of any rigid demarcation. It is by no means easy to decide which students are fitted for an honours course at the time of the intermediate as many good students develope at a later stage, and others do not fulfil their early promise. On the other hand, the good students in the B. Sc. examination are almost always suited for higher work and research. If, therefore, any changes are to be made in the relationship between honours and pass courses, it would be well to make arrangements whereby students could easily change from the honours to the pass B. A. course and *vice versâ*. It might even be better to postpone specialisation until the completion of the B. Sc. course.

University teaching.—Only those who have conducted research should be entrusted with the higher teaching. Students should come under the influence of the best teachers as soon as possible after admission to the University. This need is not met under the present system. When he was at the Presidency College, the witness appreciated the opportunity of lecturing to the junior students. If bigger lecture halls were available, the witness would desire to give lectures open to all students in Calcutta. The existing system of university organisation, however, renders it difficult to do more than this, as the university professors have no connection with under-graduate work. If, however, the intermediate teaching were removed from the scope of university teaching, it might be possible for the honours students at any rate to come under the influence of the university professors.

The teaching of science and geography in schools.—Things being as they are in the secondary school system, it would not be possible as yet to make geography or science compulsory at the matriculation. Much more, however, should be done to assist the secondary schools in making provision for teaching in these subjects. If hasty action is taken to make these subjects compulsory, many schools would be unable to meet the financial requirements. The aim, however, should be to make some introduction to scientific method compulsory.

Post-graduate work.—The new arrangements have only just been started. It is impossible to say as yet how the organisation is working.

XIX. TRUST DEEDS OF COLLEGES.

General Memoranda.

Bangabasi College.

Dated 15th February 1910.

re Bangabasi College

GIRISH CHANDRA BOSE, ESQ.

TO

The Hon'ble MR. S. P. SINHA & OTHERS.

Copy.

Conveyance to Trustees.

Registered No. 420 for 1910.

C. H. KESTEVEN,
Solicitor to the Government of India.

This Indenture is made the 15th day of February 1910 Between Girish Chandra Bose son of Janaki Prasad Bose deceased of Berugram in the District of Burdwan at present residing at No. 38 Upper Circular Road in the town of Calcutta by caste Kayastha by occupation landholder hereinafter only referred to as "the settlor" of the one part and The Honourable Mr. Satyendra Prasanna Sinha of 17 Elysium Row Calcutta the said Girish Chandra Bose, Sushil Kumar Bose and Sudhir Kumar Bose both of Berugram aforesaid at present residing at No. 38 Upper Circular Road aforesaid sons of the said Girish Chandra Bose by caste Kayastha by occupation landholders and Nirad Mohini Bose wife of the said Girish Chandra Bose hereinafter only referred to as "the trustees" of the other part. Where as the settlor established a College called and known as the Bangabasi College some years ago and has conducted and maintained the same at his own expense and Whereas it has become necessary to make some arrangement for the management and conduct of the said College and Whereas the settlor is seised and possessed as the sole and absolute proprietor thereof of the premises and hereditaments fully described in the Schedule hereto and the said Bangabasi College has been for the last five years located conducted and maintained at such premises and Whereas it has been agreed by the parties hereto that for the better management and preservation of the said College the settlor should convey the said premises to the said trustees upon the trusts and subject to the provisions hereinafter contained and Whereas for the purposes of calculating stamp duty the value of the said premises has been taken to be Rs. 40,000. Now this Indenture witnesseth that in pursuance of the said agreement and in consideration of the premises the said settlor hereby grants conveys transfers and assigns unto the said trustees the survivors and survivor of them and their or his successors in office to be appointed as hereinafter mentioned the premises described in the Schedule hereto and known as the Bangabasi College premises with all rights privileges easements and appurtenances thereunto annexed or belonging or usually held and enjoyed therewith. To have and to hold the same upon the trusts following that is to say in the first place upon trust to execute and to join with the settlor in executing a Trust deed of the said premises in favour of the Secretary of State for India in Council to secure a sum of Rs. 33,550 being a grant-in-aid for the purposes of the said College according to the rules for grants-in-aid now in force in Bengal sanctioned in Bengal Government orders and upon further trust to permit the said premises to be used for the purposes of the education to be imparted by the said College under the control of the governing body thereof (constituted or to be constituted in accordance with the provisions of Article 4 of Chapter XIX of the Regulations of the Calcutta University) so long as the said College shall be managed and conducted by such governing

body in all respects in accordance with the rules and regulations for the time being in force of the Eucation Deparetment in Bengal and to permit the said College and premises at all times to be open to the inspection of the Director of Public Instruction in Bengal for the time being or of any officers of Government appointed for the purpose and upon further trust after the said College shall for any reason have ceased to exist or if the same shall not be carried on in manner aforesaid to convey the said premises unto the settlor his heirs executors administrators representatives or assigns subject to the said security in favour of the Secretary of State as aforesaid or as he or they may direct Provided always that it shall from time to time and at all times be lawful for the Trustees for the time being to expend such sums as may be received by them and such further and other sums as may be reasonably necessary upon the payment of all revenue rates taxes assessments and public demands in respect of the said premises and for keeping the same in repair and in good sanitary condition and to recover from the settlor or his estate or the person entitled to the reversionary interest in the premises any excess of such expenditure over the amounts received by them for the purpose Provided also that any Trustee may upon giving notice in writing to the settlor or the person entitled to such reversionary interest as aforesaid and to the remaining Trustees and to the Director of Public Instruction Bengal of such his desire retire from the trusts of these presents Provided also that upon the retirement or death of any Trustee or upon any Trustee becoming incapable of acting or remaining out of India more than 12 consecutive months it shall be lawful for the surviving or other Trustees or Trustee to appoint a new Trustee or new Trustees in lieu thereof but so that the total number shall not exceed the original number and the surviving or remaining Trustees shall pending such new appointment exercise all the powers of the Trustees and if no such appointment shall be made within 3 months of the vacancy arising the Director of Public Instruction Bengal shall have power to appoint such new Trustee or Trustees and the settlor doth for himself his heirs executors and administrators hereby covenant with the said Trustees the survivors or survivor of them and their successors in office that notwithstanding anything by the settlor done or knowingly suffered he the said settlor now has power to convey all and singular the said premises upon the trusts aforesaid free from incumbrances and that all the said premises may be quietly entered into held and enjoyed by the said Trustees the survivors or survivor of them and their successors in office upon the trusts aforesaid without any interruption by the settlor or any person lawfully or equitably claiming through or in trust for him and that he the settlor his heirs executors or administrators and every person lawfully or equitably claiming through or in trust for him will at all times at the costs of the settlor his heirs executors administrators or assigns execute and do all such assurances and things for further or better assuring all or any of the said premises in manner aforesaid as shall be reasonably necessary and further that he the settlor his heirs executors or administrators or the person entitled to such reversionary interest as aforesaid will from time to time pay or discharge all revenue rates taxes assessments and public demands in respect of the said premises and will bear and discharge all expenses of keeping the said premises in repair and in good sanitary condition as may be reasonably necessary and will pay to the Trustees the survivors or survivor of them and their successors in office and keep them indemnified in respect of all sums which they may expend or be called upon or find it reasonably necessary to expend for the like purposes or for their proper costs and expenses as such Trustees as aforesaid.

The Schedule above referred to.

The upper roomed brick built messuage tenement or dwelling house together with the piece or parcel of land on part whereof the same is erected and built containing by estimation 13 cottahs more or less situate at and being premises No. 25-1 formerly No. 26 Scott's Lane in the town of Calcutta and being Holding No. 300 in Block No. 1 in the North Division of the said town and in respect whereof an annual Revenue of Rs. 3-1-3 only is payable in the Collectorate of Calcutta and which is bounded and butted as follows. On the North by the brick built houses of Bhaba Nath Banerjee and others on the South by the Bangabasi School premises on the East by the dwelling house of Ram Chandra Jalia and a narrow strip of land claimed by the said Ram Chandra Jalia and on the West by a blind branch of the said Scott's Lane the dimensions and abuttals whereof are more particularly delineated in the plan hereto annexed wherein the said premises are coloured pink.

In witness whereof the said parties to these presents have hereunto set their respective hands and seals the day and year first above written.

Signed sealed and delivered by the above-named Girish Chandra Bose in the presence of S. S. Hodson, Solicitor, Calcutta. Rakhaldas Basu. } GIRISH CHANDRA BOSE (L. S.)

Signed sealed and delivered by the above-named The Hon'ble Mr. Satyendra Prasanna Sinha S. S. Hodson, Solicitor Calcutta, A. Vere Nicoll, Solicitor, Calcutta. } SATYENDRA PRASANNA SINHA (L. S.)

Signed sealed and delivered by the above-named Girish Chandra Bose, Sushil Kumar Bose, and Sudhir Kumar Bose in the presence of S. S. Hodson Rakhaldas Bose, Head Master, Bangabasi College School. } GRISH CHANDRA BOSE (L. S.) SUSIL KUMAR BOSE (L. S.) SUDHIR KUMAR BOSE (L. S.)

Signed sealed and delivered by the above-named Nirad Mohini Bose in the presence of Girish Chandra Bose Signed Susil Kumar Bose. } NIRAD MOHINI BOSE (L. S.)

Registered Book I, Vol. 33, P. 34-43. Being No. 420. For 1910.

TRUST DEED OF THE BANGABASI COLLEGE.

Dated 16th February 1910.

THE TRUSTEES OF THE BANGABASI COLLEGE

TO

THE SECRETARY OF STATE FOR INDIA IN COUNCIL

TRUST DEED

to secure grant-in-aid.

Registered No. 421 for 1910.

C. H. KESTEVEN,

Solicitor to the Government of India.

THIS INDENTURE is made on the 16th day of February 1910 BETWEEN THE HONOUABLE MR. SATYENDRA PRASANNA SINHA of 17 Elysium Row, Calcutta, GIRISH CHANDRA BOSE of Berugram in the district of Burdwan, at present of 38, Upper Circular Road in the town of Calcutta, son of Janaki Prasad Bose deceased, by caste Kayastha by occupation Landholder, SUSIL KUMAR BOSE and SUDHIR

KUMAR BOSE both of Berugram in the district of Burdwan at present of 38, Upper Circular Road in the town of Calcutta, sons of the said Girish Chandra Bose and NIRADMOHINI BOSE, wife of the said Girish Chandra Bose hereinafter called the Trustees of the first part, the said GIRISH CHANDRA BOSE of the second part and the SECRETARY OF STATE FOR INDIA IN COUNCIL hereinafter called the said Secretary of State of the third part. WHEREAS the piece or parcel of land hereinafter described and expressed to be hereby assured with the building thereon is now vested in the said Trustees as Trustees of the Bangabasi College subject to a proviso for reconveyance thereof to the said Girish Chandra Bose in the event of the said College ceasing to be carried on in accordance with the rules of the Education Department or ceasing to exist AND WHEREAS the said Trustees have applied to the said Secretary of State for grant-in-aid in respect of the said Bangabasi College AND WHEREAS the Director of Public Instruction in Bengal acting for and on behalf of the said Secretary of State has sanctioned a special grant of Rs. 33,550 in aid of the said College on the condition that the college-buildings are put into proper state of repair within a period of six months and in consideration of the execution in favour of the said Secretary of State of such conveyance or assurance as is hereinafter contained NOW THIS INDENTURE WITNESSETH that in pursuance of the said agreement in that behalf and in consideration of the said grant-in-aid or sum of Rs. 33,550 which has already been paid and the payment whereof the said Trustees hereby acknowledge they the said Trustees and the said Girish Chandra Bose do and each of them doth according to his or their respective interest or estate whether in possession, reversion or remainder and with intent to effectually transfer the whole estate and interest in the premises hereby grant, convey and assign ALL THAT piece or parcel of land situate in the town of Calcutta being a portion of Holding No. 300 in Block I in the North Division Ward No. 9 a portion of premises No. 25-1 Scott's Lane containing by estimation an area of 13 cottahs and bounded on the East by a strip of waste land belonging to Ram Chandra Jalia and a narrow strip of land claimed by the said Ram Chandra Jalia on the South by the Bangabasi School premises including the compound in the West on the West by a blind branch of the said Scott's Lane and on the North by brick built houses of Bhobanath Banerjee and others the dimensions and abuttals whereof are more particularly delineated in the Plan hereto annexed wherein the said premises are coloured pink TOGETHER with all and singular the buildings and erections now being or which may hereafter be thereon erected expressly including the said buildings to be erected as aforesaid and all rights easements and appurtenances whatsoever usually held or occupied therewith or reputed to belong or appurtenant thereto and also all furniture fixtures fittings maps and other College apparatus books and chattels for the time being in and belonging to or used or to be used for the said College and all the estate right title interest claim and demand of the said Trustees into and upon the said hereditaments and premises TO HAVE AND TO HOLD the said piece or parcel of land hereditaments chattels and effects and all other the premises expressed to be hereby assured unto and to the use of the said Secretary of State his successors in office and assigns according to the nature and tenure thereof respectively UPON THE TRUSTS nevertheless and to and for the intents and purposes following, that is to say, upon trust to permit the same hereditaments and premises to be used as and for the purposes of a public College the said College to be managed and conducted in all respects in accordance with the rules and regulations for the time being in force of the Education Department in Bengal and to be always open to the Inspection of the Director of Public Instruction in Bengal for the time being or of any officer of Government appointed for that purpose AND UPON FURTHER TRUST in case the said Trustees or their successors in that office shall at any time fail to maintain and keep in good and substantial order and repair and condition the buildings to be erected in the said hereditaments and premises to the end that the same may be always efficient for use for the purposes of the said College or if the said College shall at any time cease to exist or cease to be conducted in accordance with the said rules then and in any such cases to forthwith make sale and absolutely dispose of the said hereditaments and premises and apply the proceeds of such sale after payment thereout of all costs and expenses attending the same in and towards recouping or reimbursing to the said Secretary of State his successors in office or assigns the said grant-in-aid or sum of Rs. 33,550 and pay the surplus if any to the said Girish Chandra Bose party hereto his heirs executors administrators or assigns IN WITNESS whereof the said parties

to these presents have hereunto set their respective hands and seals the day and year first written above.

Signed, Sealed and Delivered by the above-named The Honorable Mr. Satyendra Prasanna Sinha in the presence of S. S. Hodson, Solicitor, Calcutta. } SATYENDRA PRASANNA SINHA (L. S.)

Signed, Sealed and Delivered by the above-named Girish Chandra Bose in the presence of S. S. Hodson, Rakhaldas Basu. } GIRISH CHANDRA BOSE (L S)

Signed, Sealed and Delivered by the above-named Susil Kumar Bose and Sudhir Kumar Bose in the presence of S. S. Hodson, Rakhaldas Basu. } SUSIL KUMAR BOSE (L.S.) SUDHIR KUMAR BOSE (L. S.)

Signed, Sealed and Delivered by the above-named Nerad Mohini Bose in presence of Girish Chandra Bose, Susil Kumar Bose. } NERAD MOHINI BOSE (L. S.)

Signed, Sealed and Delivered by the above-named Girish Chandra Bose in the presence of S. S. Hodson, Rakhaldas Bose, Head Master, Bangabasi College-School. } GIRISH CHANDRA BOSE (L. S.)

Ripon College.

TRUST DEED OF RIPON COLLEGE.

The original Trust Deed is not readily available so that the blank spaces in the copy meant for insertion of names and dates cannot be filled in.

(Stamp Rs. 127-8-0.)

Stamp affixed by

C. A. GEORGE,

Stamp Superintendent, Calcutta Collectorate.

This Indenture made this day of 1908 between Babu Surendranath Banerjee, son of Dr. Durga Churn Banerjee deceased, of Monirampore, Barrackpore, Brahmin, landholder of the one part, (1) The Honourable Dr. Rash Behari Ghose, son of Jagabandhu Ghose deceased of No. Theatre Road, Calcutta, Kayastha, Vakeel, High Court, (2) The Honourable Mr. Satyendra Prasanna Sinha, son of Kayastha, Bar-at-Law, (3) Babu Boicantanath Sen, son of deceased of Saidabad, Berhampore, (4) Dr. Upendranath Mukharjee, son of Mukerjee deceased, of No. 56, Mirzapore Street, Calcutta, Brahmin, Medical practitioner, (5) Mr. Ashutosh Chaudhuri and (6) Mr. Jogesh Chandra Chaudhury, son of Durgadas Chaudhury deceased, both of Ballygunge, Calcutta, Brahmins, Barristers-at-Law, (7) Babu Bhupendranath Basu, son of Ramratan Basu deceased of No. 14, Boloram Ghose's Street, Calcutta, Kayastha, Attorney-at-Law and (8) the said Surendranath Banerjee and (9) Babu Ramendra Sundar Trivedi, son of Trivedi deceased of Street, Calcutta, Principal of the College, known as the Ripon College, hereinafter collectively referred to as the trustees of the other WHEREAS the said Surendranath Banerjee is the absolute owner of the educational Intitution known as the Ripon College including

Ripon College.

the Law Department and the Ripon School at present located at No. 60, Mirzapore Street in the town of Calcutta and of all the furniture, fittings, laboratory, library and other appurtenances thereof valued at Rs. 20,000 and is the present lessee of the said premises AND WHEREAS with the object of placing the said Institutions on a permanent footing and converting them into public Institutions, the proprietor has thought it desirable to divest himself of all private rights of property he has over the said Institutions and vesting them in the Trustees NOW THIS INDENTURE WITNESSETH that for the purpose of carrying out his intention, the said Surendranath Banerjee doth hereby grant and assign unto the Trustees their heirs, executors, administrators, and representatives all that the good will of the educational institutions known as the Ripon College including the Law Department and the Ripon School at present located at No. 60, Mirzapore Street and the benefits of the lease under which the said premises are at present held by the proprietor together with the furniture, fittings, books, maps, libraries, laboratories and instruments and all other appurtenances held and used with the said Institutions valued at Rs. 20,000 together with advance now remaining unadjusted *viz.*, Rupees five thousand and five hundred, made to the landlord of the said premises and all the right, title, interest, claim and demand whatsoever of him the proprietor in and to the same to hold the same unto and to the use of the Trustees so that the same may effectually vest in the Trustees and they do stand seized and possessed thereof upon the following trusts, *viz.*, upon Trust to collect fees from students and to pay the rents, rates, taxes and other outgoings payable in respect thereof and carry on the said Institutions in such manner and under such conditions and for such purposes as to the said Trustees may seem meet and for the purposes aforesaid to incur such expenditure as they may deem proper, and to hold and invest the surplus and apply the same in such way as the Trustees think desirable and the Trustees shall have the power from time to time to appoint one of themselves or some one engaged on the staff of the College with or without remuneration at the discretion of the Trustees to guide and supervise subject to the control of the Trustees the work of the said College and School and the Trustees shall also have the power from time to time to remove such officers and appoint some other in his place. And it is hereby agreed and declared that the Trustees will have the benefit of the advance of Rupees five thousand and five hundred, made to the landlord of the said premises No. 60, Mirzapore Street and to set off the rent against such advance in the same way as the proprietor is entitled to do.

And the Trustees shall have full power to amalgamate the said College or School or associate them in any particular branches of study therein with any other College or School in or near Calcutta and carry on the work of education as a joint College or School with such other College or School or in association therewith and at their discretion to withdraw from such amalgamation or dissever such association.

And it is further declared that the Trustees will have the sole financial control and management of the said Institutions and will exercise all the powers and privileges which as owners of the property they can legitimately exercise and it is hereby expressly declared that on the death or retirement of Babu Ramendra Sundar Trivedi, Principal, his successor in office as the Principal of the said Institution shall be a Trustee in his place, and further that on the death or retirement of Babu Surendranath Banerjee it shall be lawful for him by deed to appoint his successor. The successor so appointed and the person for the time being representing the Trusteeship now held by the proprietor will have the like power of appointment and it is hereby further declared that on the death, retirement, or incapacity to act of any of the other Trustees or his going abroad for more than a year the remaining Trustees shall appoint a Trustee in the place of the Trustee so dying or retiring, becoming incapable to act or going to reside abroad as aforesaid and upon every such appointment the trust premises shall become vested in the New Trustee and every such new Trustee shall have all the powers and authorities of the Trustee in whose place he shall be substituted. In Witness whereof the said parties to these presents have hereunto set and subscribed their respective hands and seals the day and year first above written.

Signed, Sealed and Delivered
(Sd.) SURENDRANATH BANERJEE.

XX. UNIVERSITY, ORGANISATION AND ADMINISTRATION OF.

General Memoranda.

Bose, G. C.

I beg to offer a few suggestions with regard to the organisation of the University, which I believe will be pertinent to the enquiry of the Commission.

Teachers should be given a statutory position in the constitution of the University a position which they do not at present occupy. This might be effected in the following way :—

(*a*) Heads of colleges affiliated to the B.A. or B.Sc. or both standards should be *ex-officio* Fellows of the University, provided they are graduates of Indian or British universities, of at least ten years' standing, and have been teachers of colleges for a continuous period of not less than ten years.

(*b*) All teachers of colleges who hold a master's degree or superior knowledge in any branch of learning equivalent to a master's degree, and have served as *bonâ fide* teachers in colleges or equivalent institutions for a continuous period of not less than five years, should form an electorate empowered to elect a given number of ordinary Fellows from among themselves, the elected Fellows having at least ten years' continuous teaching experience.

(*c*) Heads of colleges situated in Calcutta or its immediate neighbourhood will form an electorate empowered to elect from among themselves at least two members of the Syndicate.

Elected members of the Syndicate who have sat in the Syndicate for three years consecutively should be declared ineligible for re-election for the next three years.

No ordinary Fellow nominated or elected who will be in the Senate for two terms consecutively should be eligible for nomination or election again until the expiry of the next term.

The Bengal Literary Academy (*Sahitya-parishad*) should be given the power of sending a qualified member from among its body to the Senate.

The recent organisation of post-graduate studies has created two councils with two executive committees which it was predicted at the time would so dominate the University as to convert the Senate and its executive the Syndicate into a mere post-office and conduit-pipe. The proceedings of the University since the new organisation, if carefully examined, will shew how coming events are casting their shadows before. The new organisation in fact has given rise to a new dominant Senate and a new dominant Syndicate over-riding the whole University, reducing the old Senate with its old Syndicate into an undignified subsidiary body, and forcing the affiliated colleges in Calcutta into the unseemly position of secondary schools unable, though not unwilling, to take part in the higher activities of university life. If colleges are thus forced to work under a sense of oppression and humiliation, and deprived of the inspiring and energising aspiration for growth and expansion, the University, which is really made up of colleges, will soon be dwarfed and ultimately reduced into a lifeless and soulless inert mass. The universally discarded centralisation recently introduced in the higher branches of education should therefore give place to decentralisation which has been found to be more effective and efficient in all branches of administration.

Brühl, Dr. P. J.

I am sending a statement of the main items of work which the registrar's office has to attend to, further a list of names of my assistants with their work indicated by numbers which are the item numbers of the statement referred to. I enclose also a copy of the appendix to the last annual report, which gives the names, year of first appointment, grade and present pay of the members of the registrar's office staff, the post-graduate secretaries' office staffs and the staff employed in the university press. As regards the

BRÜHL, Dr. P. J.—*contd.*

registrar's office staff, it must be remembered that disorganisation of the regular work is caused not only by the examinations, but also by frequent cases of sickness. We may take it that during a considerable part of the year about ten per cent. of the assistants are absent on account either of themselves having fallen ill, or members of their family being ill or having died. The appointment of the controller of examinations will necessitate the appointment of a personal assistant to the controller and a certain amount of redistribution of the staff. It is absolutely necessary to arrange matters so that examinations interfere as little as possible with the routine work of the registrar's office; it so happens that this routine work is specially heavy just before the examinations.

WORK IN THE REGISTRAR'S OFFICE.

1. Drawing up agenda and proceedings of the following:—
   (*a*) Transfer and residence committees;
   (*b*) Boards of studies; and
   (*c*) Board of accounts.
2. Preparation of list of text-books.
3. Work in connection with the annual report.
4. Publication of examination results (the whole staff).
5. Invitation to heads of colleges and Fellows to recommend examiners.
6. Preparation of list of recommended persons.
7. Circulation of printed list to boards of studies.
8. Recommendations by boards.
9. Issuing of appointment letters to examiners and paper-setters.
10. Correspondence arising out of item 9.
11. Circulars to schools and colleges regarding number of candidates.
12. Despatch of application forms.
13. Scrutiny of applications.
14. Fee receipts.
15. Preparation of statement regarding number of candidates and subjects.
16. Preparation of rolls.
17. Checking of rolls.
18. Writing out of admission cards and fee receipts. (Majority of members of the staff.)
19. Correspondence regarding short-percentage and late-admission cases.
20. Change of centres.
21. Despatch of blank answer books, roll cards, rules for examinations, squared paper, logarithm tables, etc.
22. Arrangements of seats at Calcutta centres.
23. Supervision at examination centres.
24. Receiving and despatching answer papers.
25. Receiving mark sheets and sending them to tabulators.
26. Issuing of re-examination slips.
27. Receiving and sending out re-examination marks.
28. Dealing with reports of superintendents of centres.
29. Drawing up absentee lists.
30. Preparation of lists of successful candidates. (Majority of members of the staff.)
31. Issuing cross lists and mark sheets to examiners. (About twenty members of the staff.)
32. Receiving answer papers and sorting them.
33. Cross lists supplied to all colleges.
34. Correspondence regarding order of merit.
35. Lists of awards of scholarships, medals and prizes and correspondence arising out of them.
36. Correspondence arising out of presentation of these for different degrees, research scholarships and prizes.
37. Correspondence arising out of applications for scrutiny of marks.

BRÜHL, Dr. P. J.—*contd.*

38. Writing-out of certificates, diplomas, provisional and duplicate certificates; checking certificates. (About fifteen assistants.)
39. Correspondence and administration work in connection with convocation and public lectures.
40. Demi-official correspondence in answer to requests for information on a variety of subjects.
41. Receiving letters and entering *précis* of contents.
42. Purchase of various articles; calling for tenders and correspondence arising therefrom.
43. Work in connection with Palit and Ghose trusts.
44. Mess inspector's work.
45. Work in connection with collegiate hostels.
46. Preparation of agenda papers of Senate, faculties, Syndicate, transfer and residence committees, boards of studies, committees and sub-committees, governing bodies (University Law College, etc.).
47. Collecting and arranging files for meetings.
48. Accountant's work.
49. Preparation of Parts I, II and III of the Calendar.
50. Indexing work.
51. Comparing department.
52. Cashier's work.
53. Record work.
54. Registration of students.
55. Registration of registered graduates.
56. Despatch of calendar and minutes to Fellows and registered graduates.
57. Despatching letters, publications, notices, etc.
58. Work in connection with the printing of certificates, diplomas, programmes, admission cards, etc.
59. Work of the typing department.
60. Work in connection with university publications.
61. Correspondence arising out of applications for affiliation or extension of affiliation of colleges.
62. Correspondence in connection with annual inspection reports.
63. Correspondence in connection with reports on changes of staff in colleges and schools.
64. Dealing with annual reports of schools.
65. Work in connection with withdrawal of affiliation and recognition.

REGISTRAR'S ASSISTANTS AND THEIR DUTIES.

Babu Chandrabhushan Maitra, M.A., Registrar.	Assistant	3, 5, 7, 10, 11, 22, 25, 27, 28, 37, 39, 40, 42, 49, 61.

ASSISTANTS.

Babu Kunjabihari Ghosh, B.A.	9, 19, 61, 62, 63, 65.
,, Narendranath Sen, M.A., B.Sc.	1 (*a*), 22, 23, 35, 36, 49.
,, Sailendranath Basu, B.A., Accountant	1 (*c*), 48.
,, Radhacharan Mukerjee, M.A.	9, 19, 61, 62, 63, 65.
,, Amritalal Basu	3, 39, 43, 49.
,, Kartikchandra Dasgupta, B.A.	19, 40.
,, Basantabihari Chandra, M.A., Librarian	1 (*c*), 2, 49
,, Surendranath Ghosh, M.A.	13, 53.
,, Bhagwandas Chatterjee, M.A.	23, 40.
,, Abhayacharan Mukerjee	51.
,, Amarendranath Chatterjee, Cashier	14, 52.
,, Manindrakumar Basu	24, 26, 41.
,, Birendranath Banerjee	47, 53.
,, Bijaygopal Biswas	6 8, 23, 54.

BRÜHL, Dr. P. J.—*contd.*

Babu Jayantipada Chaudhuri	38, confidential typist, 58.
„ Sisirbihari Basu	Confidential clerk to Vice-Chancellor.
„ Prakaschandra Banerjee, B.A.	46.
„ Prabodhchandra Ghosh, B.A.	13, 16, 63, 64, 65.
„ Ajarchandra Sarkar	6, 8, 13, 20, 35.
„ Upendranath Ghosh	3, 50.
„ Binodbihari Chakrabarti	6, 8, 23, 55, 56.
„ Susilkumar Mukerjee	7, 57.
„ Arunprakas Mukerjee	23, 60.
„ Bibhutibhushan Chatterjee, Assistant accountant.	48.
„ Jogendranath Banerjee	59.
„ Siddheswar Ghosh	12, 15.
„ Asutosh Pal	15, proof reader.
„ Sudinkrishna Chatterjee	3, 16, 17, 23, 29, 34.
„ Kiranchandra Sen	16, 41.
„ Bhabanath De	51.
„ Dhirendranath Mukerjee	59.
„ Akshaykumar Raychaudhuri	Library assistant.
„ Sailendranath Pathak	53.
„ Rameschandra Sen	59.
„ Jibankrishna Chatterjee	59.
„ Panchanan Banerjee	16, 53.
„ Asutosh Bagchi	49, proof reader.
„ Manindrabhushan Sinha, B.A.	53.
„ Nirmalchandra Mukerjee	29, 33.
„ Sukumar Banerjee	32.
„ Basantakumar Banerjee	3, 16, 17, 29, 34.
„ Lalitmohan Chakrabarti	Library assistant.
„ Susilchandra Banerjee	24, 26.
„ Anadicharan Ghosh	59.
„ Jogindranath Ghosh	16, 54.
„ Manmathanath Sinha	57.
„ Sunithanath Tagore	Proof reader.
„ Rebatimohan Ray	Proof reader, 49.
„ Pratapchandra Basu	Duplicate and provincial certificates.
„ Sudhanath Mukerjee, B.A., Inspector of messes.	1 (*b*), 44.
„ Sailajananda Mukerjee, assistant to do.	44.

UNIVERSITY STAFF AND THEIR PAY.

REGISTRAR'S OFFICE.

NAME.	Year of first appointment.	Grade.	Present pay.
		Rs.	Rs. A. P.
Registrar.			
P. J. Brühl, Esq., D.Sc.	1913	800—50—1,000	1,000 0 0
Controller.			
Rai Bahadur Abinashchandra Basu, M.A.	1917	..	1,000 0 0
Assistant Registrar.			
Babu Chandrabhusan Maitra, M.A.	1909	250—20—350	290 0 0
Special personal allowance		350—10—400	75 0 0
Assistants.			
First grade.			
Babu Kunjabihari Ghosh, B.A.	1909	150—10—200	200 0 0
„ Narendranath Sen, M.A., B.Sc.	1911	150—10—200	195 0 0
„ Sailendranath Basu, B.A., *Accountant*	1909	150—10—200	195 0 0

BRÜHL, Dr. P. J.—*contd.*

NAME.	Year of first appointment.	Grade.	Present pay.
		Rs.	Rs. A. P.
Second grade.			
Babu Radhacharan Mukerjee, M.A.	1915	100—10—200	100 0 0
Third grade.			
,, Amritalal Basu	1889	100—10—150	150 0 0
,, Kartikchandra Dasgupta, B.A.	1909	100—10—150	120 0 0
,, Basantabihari Chandra, M.A., *Librarian*	1917	100—10—150	100 0 0
Fourth grade.			
,, Surendranath Ghosh, M.A.	1917	75—5—100	75 0 0
,, Bhagwandas Chatterjee, M.A.	1917	75—5—100	75 0 0
Fifth grade.			
,, Abhayacharan Mukerjee	1908	60—5—90	90 0 0
,, Amarendranath Chatterjee, *Cashier*	1909	60—5—90	90 0 0
,, Manindrakumar Basu	1912	60—5—90	90 0 0
,, Birendranath Banerjee	1898	60—5—90	90 0 0
,, Bijaygopal Biswas	1907	60—5—90	90 0 0
,, Jayantipada Chaudhuri	1910	60—5—90	90 0 0
,, Sisirbehari Basu	1914	60—5—90	70 0 0
,, Prakaschandra Banerjee B.A.	1915	60—5—90	65 0 0
,, Prabodhchandra Ghosh, B.A.	1914	60—5—90	65 0 0
,, Ajarchandra Sarkar	1915	60—5—90	65 0 0
Sixth grade.			
,, Upendranath Ghosh	1907	50—5—75	75 0 0
,, Binodbehari Chakrabarti	1908	50—5—75	75 0 0
,, Susilkumar Mukerjee	1908	50—5—75	75 0 0
,, Arunprakas Mukerjee	1908	50—5—75	75 0 0
,, Bibhutibhushan Chatterjee, *Assistant accountant*	1909	50—5—75	65 0 0
,, Jogendranath Banerjee	1903	50—5—75	75 0 0
,, Siddheswar Ghosh	1903	50—5—75	75 0 0
Seventh grade.			
,, Asutosh Pal	1907	40—4—60	60 0 0
,, Sudinkrishna Chatterjee	1905	40—4—60	60 0 0
,, Kiranchandra Sen	1909	40—4—60	60 0 0
,, Bhabanath De	1909	40—4—60	60 0 0
,, Dhirendranath Mukerjee	1911	40—4—60	60 0 0
,, Akshaykumar Raychaudhuri	1912	40—4—60	52 0 0
,, Sailendranath Pathak	1913	40—4—60	52 0 0
,, Rameschandra Sen	1913	40—4—60	52 0 0
,, Jibankrishna Chatterjee	1914	40—4—60	52 0 0
,, Panchanon Banerjee	1915	40—4—60	44 0 0
,, Asutosh Bagchi	1915	40—4—60	44 0 0
,, Manindrabhusan Sinha, B.A.	1917	40—4—60	40 0 0
Eighth grade.			
,, Nirmalchandra Mukerjee	1905	30—2—40	40 0 0
,, Sukumar Banerjee	1908	30—2—40	40 0 0
,, Basantakumar Banerjee	1911	30—2—40	40 0 0
,, Lalitmohan Chakrabarti	1912	30—2—40	38 0 0
,, Susilchandra Banerjee	1910	30—2—40	36 0 0
,, Anadicharan Ghosh	1913	30—2—40	38 0 0
,, Jogindranath Ghosh	1915	30—2—40	34 0 0
,, Manmathanath Sinha	1915	30—2—40	34 0 0
,, Sunithanath Tagore	1915	30—2—40	30 0 0
,, Rebatimohan Ray	1915	30—2—40	30 0 0
Ninth grade.			
,, Pratapchandra Basu	1913	20—2—30	29 0 0

BRÜHL, Dr. P. J.—*contd.*

NAME.	Year of first appointment.	Grade.	Present pay.
		Rs.	Rs. A P.
Shorthand reporter.			
Mr. J. Christensen	1917	200—25—350	200 0 0
Pensioners.			
Babu Girischandra Mookerjee, M.A.	..	..	190 11 0
,, Saratchandra De, B.A.	..	..	23 5 4
Widow of Babu Nagendranath Banerjee	..	..	25 0 0
Shaikh Hydar	..	..	7 0 0
THE INSPECTOR OF COLLEGES AND HIS ESTABLISHMENT.			
Mr. J. C. Ghose, M.A., *inspector of colleges*	1917	800—50—1,000	800 0 0
Babu Birendranath Mukerjee, B.A., *Assistant*	1908	100—10—150	50 0 0
THE INSPECTOR OF MESSES AND HIS ESTABLISHMENT.			
Babu Sudhanath Mukerjee, B.L., *inspector of messes.*	1909	200—10—250	250 0 0
Conveyance allowance		..	80 0 0
,, Sailajananda Mukherjee, *assistant*	1911	40—2—50	42 0 0
UNIVERSITY PROFESSORS.			
Dr. C. E. Cullis, *Hardinge professor of higher mathematics*	1917	*Nil*	1,000 0 0
			350 0 0
Mr. C. J. Hamilton, *Minto professor of economics*	1914	*Nil*	1,000 0 0
			250 0 0
Dr. B. N. Seal, *George V professor of philosophy*	1914	*Nil*	1,000 0 0
Mr. D. R. Bhandarkar, *Carmichael professor of ancient history.*	1917	*Nil*	1,000 0 0
,, P. Gangooly, *Assistant professor of ancient history*	1917	*Nil*	250 0 0
,, Arun Sen, *Assistant to Carmichael professor*	1917	*Nil*	200 0 0
,, Narayanchandra Banerjee, *Assistant to Carmichael professor.*	1917	*Nil*	150 0 0
Sir P. C. Ray, *Sir Taraknath Palit professor*	1917	800—50—1,000	800 0 0
Mr. C. V. Raman ,, ,, ,,	1917	800—50—1,000	800 0 0
House allowance.		..	125 0 0
Dr. Ganesh Prasad, *Sir Rash Behary Ghose professor.*	1914	*Nil*	600 0 0
Mr. D. M. Bose, ,, ,, ,,	1914	*Nil*	500 0 0
,, S. P. Agharkar ,, ,, ,,	1916	*Nil*	500 0 0
,, P. C. Mitter ,, ,, ,,	1914	*Nil*	500 0 0
POST-GRADUATE TEACHERS (ARTS).			
ENGLISH.			
Dr. H. Stephen	1915	*Nil*	750 0 0
Mr. Jaygopal Banerjee	1917	400—25—500	400 0 0
,, Sunitkumar Chatterjee	1914	200—25—300	275 0 0
,, R. Datta	1910	250—25—300	300 0 0
,, Susilkumar De	1916	*Nil*	200 0 0
,, Herambachandra Maitra	1912	*Nil*	250 0 0
,, Harendracoomar Mookerjee	1914	*Nil*	500 0 0
,, Saileswar Sen	1917	*Nil*	300 0 0
,, Nikhilnath Maitra	1917	*Nil*	300 0 0
,, Rabindramohan Datta	1917	*Nil*	200 0 0
,, Mohinimohan Bhattacharyya	1917	*Nil*	200 0 0
Rev. A. B. Johnston	1917	*Nil*	100 0 0
Mr. Rajanikanta Guha	1917	*Nil*	100 0 0
SANSKRIT.			
M. M. Kaliprasanna Bhattacharyya	1917	*Nil*	100 0 0
Pandit Staram Sastri	1917	*Nil*	200 0 0
,, Sivakumar Tarkadarsanthirtha	1917	*Nil*	75 0 0
Rai Rajendra Chandra Sastri Bahadur	1917	*Nil*	100 0 0
Babu Kokileswar Battacharyya	1917	300—25—400	350 0 0
,, Pasupatinath Bhattacharyya	1917	200—25—250	200 0 0
,, Prabhat Chandra Chakrabarti	1917	*Nil*	150 0 0
,, Niranjanprasad Chakrabarti	1917	*Nil*	150 0 0
Pandit Krishnacharan Tarkalankar	1917	*Nil*	75 0 0
,, Haragovinda Set	1917	*Nil*	100 0 0
,, Annantakrishna Sastri	1917	150—10—209	150 0 0

BRÜHL, Dr. P. J.—*contd.*

NAME.	Year of first appointment.	Grade.	Present pay.
		Rs.	Rs. A. P.
Pali.			
M. M. Dr. Satischandra Vidyabhushana	1910	*Nil*	200 0 0
Mr. Sailandranath Mitra	1917	*Nil*	200 0 0
Arabic and Persian.			
Maulavi Md. Khalil Ahmed	1917	*Nil*	100 0 0
Shaikh Abu Nasr Gilani	1917	*Nil*	100 0 0
Maulavi Abu Musa Ahmadul Haq	1917	*Nil*	100 0 0
Shams-ul-Ulama Vilayet Hossain	1917	*Nil*	100 0 0
The Hon'ble Dr. A. Suhrawardy	1917	*Nil*	200 0 0
Comparative Philosophy.			
Dr. I. J. S. Tarapurwala	1917	*Nil*	500 0 0
Philosophy.			
Mr. J. R. Banerjea	1913	*Nil*	100 0 0
,, P. K. Chakrabarti	1913	*Nil*	100 0 0
,, Kalidhan Chatterjee	1917	*Nil*	100 0 0
Rev. G. Evan	1915	*Nil*	100 0 0
Mr. P. C. Ghosh	1913	*Nil*	100 0 0
Dr. Hiralal Haldar	1912	*Nil*	500 0 0
,, Ramdas Khan	1912	*Nil*	500 0 0
Mr. Susilkumar Maitra	1914	*Nil*	250 0 0
,, Ambikacharan Mitra	1914	*Nil*	500 0 0
Dr. Narendranath Sengupta	1916	*Nil*	250 0 0
Mr. Haridas Bhattacharyya	1917	200—25—250	200 0 0
,, Satischandra Chatterjee	1917	*Nil*	200 0 0
Rev. Dr. W. S. Urquhart	1917	*Nil*	100 0 0
Experimental Psychology.			
Dr. Narendranath Sengupta	1917	*Nil*	100 0 0
Mr. Haridas Bhattacharyya	1917	*Nil*	50 0 0
,, Manmathonath Banerjee	1916	*Nil*	200 0 0
,, K. N. Mitra	1917	*Nil*	200 0 0
,, Promodranjan Dasgupta	1917	*Nil*	150 0 0
History.			
Mr. Gauranganath Banerjee	1915	200—25—250	250 0 0
,, A. C. Datta	1916	*Nil*	250 0 0
,, Rameschandra Majumdar	1914	300—25—400	375 0 0
,, Surendranath Majumdar	1913	250—25—500	350 0 0
,, Bipinbihari Sen	1914	400—25—500	475 0 0
,, S. Khuda Buksh	1917	*Nil*	200 0 0
,, P. Gangooly	1917	*Nil*	100 0 0
The Hon'ble Dr. A. S. Suhrawardy	1917	*Nil*	300 0 0
Mr. Hemchandra Raychaudhuri	1917	*Nil*	200 0 0
,, Pramathanath Banerjee	1917	*Nil*	200 0 0
,, Praphullachandra Bose	1917	*Nil*	200 0 0
,, Surendrachandra Sen	1917	*Nil*	200 0 0
Economics.			
Dr. Pramathanath Banerjee	1917	400—25—500	400 0 0
Mr. Bijaykumar Sarkar.	1917	*Nil*	300 0 0
,, Satischandra Chakrabarti	1916	200—25—300	225 0 0
,, Durgagati Chattoraj	1916	*Nil*	200 0 0
,, Praphullachandra Ghosh	1916	*Nil*	200 0 0
,, Jitendraprasad Neogi	1917	*Nil*	200 0 0
,, Satischandra Ray	1912	500—25—600	600 0 0
,, Jogischandra Sinha.	1915	*Nil*	200 0 0
,, Radhakamal Mukerjee	1917	*Nil*	250 0 0

BRÜHL, Dr. P. J.—*contd.*

NAME.	Year of first appointment.	Grade.	Present pay.
		Rs.	Rs. A. P.
Pure Mathematics.			
Dr. Haridas Bagchi	1912	250—25—300	300 0 0
Mr. Hariprasanna Banerjee	1916	200—25—250	225 0 0
„ Satischandra Bose	1917	*Nil*	100 0 0
„ Indubhushan Brahmachari	1912	*Nil*	300 0 0
„ Surendramohan Ganguli	1915	200—25—250	250 0 0
„ Manoranjan Gupta	1913	*Nil*	200 0 0
„ Narendrakumar Majumdar	1913	200—25—250	250 0 0
Dr. Syamadas Mukherjee	1912	400—25—500	475 0 0
Mr. Satischandra Ghosh	1917	*Nil*	250 0 0
„ Sasindrachandra Dhar	1917	*Nil*	200 0 0
SECRETARY'S OFFICE.			
Babu Sisirkumar Ray, M.A., *Students' residence inspector*	1917	*Nil*	100 0 0
Assistants.			
Babu Dwijendranath Basu, *Head assistant*	1913	*Nil*	90 0 0
„ Basantakumar Nag	1914	*Nil*	70 0 0
„ Netraranjan Dutt (Accts. Dept.)	1917	*Nil*	60 0 0
„ Pulinbihari Ray	1917	*Nil*	50 0 0
„ Kalicharan Chatterjee	1917	*Nil*	50 0 0
„ Rajendralal Maitra	1917	*Nil*	40 0 0
„ Dhirendranath Basu	1917	*Nil*	40 0 0
„ Ramsaran Kundu	1917	*Nil*	40 0 0
„ Bhupatinath Taraphdar, *Head Typist*	1917	*Nil*	50 0 0
„ Atulyaratan Dutta, *Second Typist*	1917	*Nil*	30 0 0
„ Rashbehary Chakrabarti, *Library assistant*	1917	*Nil*	30 0 0
„ Sasankasekhar Ghosh, *Library assistant*	1917	*Nil*	30 0 0
„ Ramkumar Biswas, *Junior assistant*	1917	*Nil*	15 0 0
POST-GRADUATE TEACHERS (SCIENCE).			
Applied Mathematics.			
Babu Sudhansukumar Banerjee	1916	*Nil*	200 0 0
„ Nalinimohan Basu	1916	*Nil*	200 0 0
„ Bibhutibhusan Datta	1916	*Nil*	200 0 0
„ Siteschandra Kar	1917	*Nil*	100 0 0
„ Nikhilranjan Sen	1917	*Nil*	200 0 0
Physics.			
Mr. Susilkumar Acharyya	1916	*Nil*	200 0 0
„ Satyendranath Bose	1916	*Nil*	200 0 0
„ Phanindranath Ghosh	1916	*Nil*	225 0 0
„ Sisirkumar Mitra	1916	*Nil*	200 0 0
„ Jogeschandra Mukherjee, M.A.	1916	*Nil*	225 0 0
„ Abinaschandra Saha	1916	*Nil*	200 0 0
„ Meghnath Saha	1916	*Nil*	200 0 0
Chemistry.			
Dr. Rasiklal Datta	1917	*Nil*	250 0 0
Mr. Jnanendrachandra Ghosh	1916	..	200 0 0
„ Jnanendranath Mukherjee	1916	..	200 0 0
„ Pulinbihari Sarkar	1916	..	125 0 0
Geology.			
Mr. E. V. Vredenburg	1917	*Nil*	200 0 0
„ Saratlal Biswas	1917	*Nil*	200 0 0
Office.			
Babu Haranchandra Banerjee, M.A.; *Secretary*	1917	*Nil*	500 0 0
„ Radhikacharan Lahiri, *Head Assistant*	1912	*Nil*	100 0 0
„ Dhirendrakumar Mukherjee; *Assistant*	1917	*Nil*	40 0 0
„ Pratapchandra Rakshit, *Assistant*	1917	*Nil*	80 0 0

BRÜHL, Dr. P. J.—*contd.*

NAME.	Year of first appointment.	Grade.	Present pay.
		Rs.	Rs. A. P.
College of Science.			
Babu Krishnadhan Goswami, *Store-keeper*	1915	..	44 0 0
,, Bijayratan Mitter, *Store-keeper*	1917	..	30 0 0
,, Nagendranath Majumdar, *Compounder*	1916	..	20 0 0
,, Bipinchandra Mallik, *Mechanic*	1917	*Nil*	60 0 0
,, Anukulchandra Das, ,,	1917	*Nil*	20 0 0
,, Bux Mistry, *Carpenter*	1917	*Nil*	30 0 0
LAW COLLEGE.			
Principal.			
Dr. S. C. Bagchi, B.A., LL.B., LL.D., Bar.-at-Law	1909	750—50—1,000	1,000 0 0
Vice-Principal.			
Babu Birajmohan Majumdar, M.A., B.L.	1909	450—25—500	400 0 0
Professors.			
Babu Abinaschandra Guha, M.A., B.L.	1916	*Nil*	200 0 0
Mr. A. C. Datta, M.A. (Oxon.), Bar.-at-Law	1913	*Nil*	200 0 0
Babu Asiranjan Chatterjee, M.A., B.L.	1914	*Nil*	200 0 0
,, Anilendranath Raychaudhuri, M.A., B.L.	1914	*Nil*	200 0 0
,, Asutosh Mukerjee, M.A., B.L.	1909	*Nil*	250 0 0
,, Atulchandra Datta, M.A., B.L.	1913	*Nil*	200 0 0
Mr. B. K. Acharyya, LL.B. (Edin.), Bar.-at-Law	1912	*Nil*	200 0 0
Babu Bijankumar Mukerjee, M.A., B.L.	1914	*Nil*	200 0 0
Mr. B. K. Ghosh, M.A., B.L., Bar.-at-Law	1912	*Nil*	200 0 0
Babu Baranashibasi Mukerjee, M.A., B.L.	1912	*Nil*	200 0 0
,, Birendrakumar De, M.A., B.L.	1916	*Nil*	100 0 0
,, Brajendranath Chatterjee, M.A., B.L.	1912	*Nil*	250 0 0
,, Charuchandra Biswas, M.A., B.L.	1913	*Nil*	200 0 0
Mr. D. N. Mitra, B.Sc., LL.B., Bar.-at-Law	1914	*Nil*	200 0 0
Babu Gopalchandra Das, M.A., B.L.	1914	*Nil*	200 0 0
,, Gopendranath Das, M.A., B.L.	1917	*Nil*	100 0 0
,, Gunadacharan Sen, M.A., B.L.	1912	*Nil*	200 0 0
,, Gurudas Sinha, M.A., B.L.	1916	*Nil*	100 0 0
,, Haraprasad Chatterjee, M.A., B.L.	1909	*Nil*	200 0 0
,, Haricharan Ganguli, M.A., B.L.	1912	*Nil*	200 0 0
,, Hiralal Chakravarti, M.A., B.L.	1911	*Nil*	200 0 0
Babu Hiralal Sanyal, M.A., B.L.	1913	*Nil*	200 0 0
Mr. J. N. Mitter, M.A., Bar.-at-Law	1913	*Nil*	200 0 0
,, J. W. Chippendale, M.A., B.L.	1913	*Nil*	200 0 0
Babu Jogendranath Mukerjee, M.A., B.L.	1909	*Nil*	200 0 0
,, Jyotiprasad Sarbhadikari, M.A., B.L.	1909	*Nil*	200 0. 0
Mr. K. N. Majumdar, M.A., Bar.-at-Law	1916	*Nil*	100 0 0
Babu Karunamay Basu, M.A., B.L.	1909	*Nil*	200 0 0
Mr. M. N. Basu, M.A. (Cantab.), Bar.-at-Law	1910	*Nil*	200 0 0
,, M. N. Kanjilal, M.A., LL.B., Bar.-at-Law	1913	*Nil*	200 0 0
Babu Manmathanath Ray, M.A., B.L.	1913	*Nil*	200 0 0
,, Mohinimohan Chatterjee, M.A., B.L.	1910	*Nil*	200 0 0
Mr. N. C. Das, M.A., B.L., Bar.-at-Law	1917	*Nil*	100 0 0
Babu Panchanan Ghosh, M.A., B.L.	1917	*Nil*	100 0 0
Dr. S. K. Gupta, M.A., B.L., B. Litt. Ph. D.	1917	*Nil*	100 0 0
Babu Mohinimohan Chakrakarti, M.A., B.L.	1913	*Nil*	200 0 0
,, Mukundnath Ray, B.L.	1914	*Nil*	200 0 0
Mr. N. C. Sen, M.A., Bar.-at-Law	1909	*Nil*	200 0 0
Babu Nagendranath Mitra, M.A., B.L.	1913	*Nil*	250 0 0
Mr. P. Mitter, B.A., Bar.-at-Law	1912	*Nil*	200 0 0
,, P. K. Chakravarti, M.A., Bar.-at-Law	1911	*Nil*	200 0 0
,, P. K. Mukherjee, B.A., Bar.-at-Law	1916	*Nil*	100 0 0
,, P. Chaudhuri, M.A., Bar.-at-Law	1915	*Nil*	200 0 0
,, P. N. Dutta, M.A., B.L., Bar.-at-Law	1912	*Nil*	200 0 0
,, Rupendrakumar Mitra, M.Sc., B.L.	1914	*Nil*	200 0 0
,, S. C. Ray, B.A., LL.B., Bar.-at-Law	1909	*Nil*	250 0 0
,, S. M. Bose, M.A., LL.B., Bar.-at-Law	1909	*Nil*	200 0 0
,, S. N. Datta, M.A., LL.B., Bar.-at-Law	1913	*Nil*	200 0 0
Babu Sailendranath Chatterjee, M.A., B.L.	1913	*Nil*	200 0 0
,, Samatulchandra Datta, M.A., B.L.	1912	*Nil*	200 0. 0
,, Saratchandra Lahiri, M.A., B.L.	1911	*Nil*	200 0 0
Mr. S. K. Chakravarti, M.A., B.L.	1914	*Nil*	200 0 0
Babu Sitaram Banerjee, M.A., B.L.	1913	*Nil*	100 0 0
,, Sivaprasanna Bhattacharyya, B.L.	1911	*Nil*	200 0 0
,, Surendranath Guha, M.A., B.L.	1916	*Nil*	200 0 0
,, Tarakchandra Chakrabarti, B.L.	1913	*Nil*	300 0 0
,, Umeschandra Ghosh, M.A., B.L.	1912	*Nil*	200 0 0
,, Upendranarayan Bagchi, M.A., B.L.	1913	*Nil*	200 0 0

BRÜHL, Dr. P. J.—*contd.*

NAME.	Year of first appointment.	Grade.	Present pay. Rs.	A.	P.
LIBRARY.		Rs.			
Babu Satischandra Mukerjee, *Librarian*	1910	100—10—150	100	0	0
„ Harendranath Banerjee, *Asst. Librarian.*	1913	30—2—40	36	0	0
„ Jitendranath Mukerjee, *Asst. Librarian*	1912	30—2—40	36	0	0
„ Brajendranath Pal, B.A., *Asst. Librarian*	1917	30—2—40	36	0	0
OFFICE.					
Babu Nisanath Basu, B.A., *Head Assistant*	1909	100—10—150	100	0	0
„ Hemchandra Ray, B.A., *Office Assistant*	1909	100—10—150	100	0	0
„ Binayendranath Maitra, *Assistant*	1912	40—4—60	56	0	0
„ Fanibhushan Mukerjee, *Assistant*	1912	30—2—40	36	0	0
„ Krishnabihari Raychaudhuri	1914	30—2—40	36	0	0
„ Subodhchandra Mukerjee, *Assistant*	1913	30—2—40	36	0	0
„ Pramathanath Mukerjee, *Assistant*	1917	30—2—40	30	0	0
Supervisor of Law College messes.					
Babu Karunanidhan Banerjee	1916	*Nil*	100	0	0
French lecturer.					
Dr. M. deMouttouranga	1916	..	100	0	0
Ramtanu Lahiri Research Fellow.					
Rai Saheb Dineschandra Sen	1913	..	250	0	0
Pali teachers.					
Swamana Punnananda	..	..	50	0	0
Mr. Mukundabihari Mallik	1914	..	100	0	0
Manendrakumar Ghose	1916	..	100	0	0
Assistant for assisting researches in Astronomy.					
Pandit Babuya Misra	1914	..	80	0	0
Sub-Agent. Sir T. N. Palit Trust Property.					
Babu Haripada Chakrabati	1914	*Nil*	40	0	0
Persian and Arabic teachers.					
Maulavi Kazim Shirazi	1916	..	50	0	0
Abu Musa Ahmadali Haque	1916	..	50	0	0
Hostel Building Accountant.					
Babu Surendranath Misra	1917	*Nil*	100	0	0
CALCUTTA UNIVERSITY PRESS STAFF.					
Superintendent.					
Babu Atulchandra Ghatak, B.A.	1914	150—10—200	185	0	0
Assistants.					
Babu Sailendranath Mukerjee	1909	40—4—60	56	0	0
„ Surendranath Mukerjee	1909	30—2—40	40	0	0
„ Jibandhan Chakravarti	1911	30—2—40	40	0	0
„ Abanikumar Mukerjee	1912	30—2—40	40	0	0
Section-holder.					
Babu Atulchandra Bhattacharyya	1909	30—5—40	40	0	0
Assistant Section-holder.					
Babu Saratchandra Haldar	1914	25—2—35	33	0	0
Computors.					
Babu Jagendranath Benerjee	1916	35—1—40	36	0	0
M. Sheik Bachoo	1917	*Nil*	25	0	0

Compositors are paid at piece-rates.

DAS, Dr. KEDARNATH—GHOSE, ARABINDA PRAKASH.

DAS, Dr. KEDARNATH.

The Calcutta University administration has grown very complex. The work of the Vice-Chancellor and the Syndicate is of such magnitude that it is practically impossible for them to cope with it. This problem is very urgent and requires immediate attention. The only solution of the problem seems to me to be the establishment of more universities in the different centres in Bengal.

So long as this is not feasible, I would suggest that the regulations should be so modified as to diminish the work of the Vice-Chancellor and the Syndicate, by giving more powers to the Registrar, to deal with routine matters.

If the university administration must continue as at present, the Vice-Chancellor should be a whole-time officer.

The university office is at present in a chaotic state and badly managed and wants thorough overhauling.

The university library should be remodelled. It does not even possess a catalogue of books contained in it.

GHOSE, ARABINDA PRAKASH.

Universities are seats of learning,—not factories to shape theories into practice. As centres of knowledge and cradles of ideas,—they should be entirely free in their activities. But as soon as these activities degenerate into actual measures to give the theories a tangible form,—they should experience a check as going beyond their province. To discover a chemical principle or a theory of Government is certainly a legitimate activity for universities: but to manufacture articles on the basis of that chemical discovery or to start agitations to establish in form the theory of Government obtained in idea—is reprehensible. There and there alone should limit be imposed on the operations of the University,—which must otherwise be religiously left free,—for to check it would mean the throttling of ideas and the fettering of the mind. To confine schools and colleges to books recommended by bodies, however qualified for the purpose, is objectionable from this point of view.

Expensive schemes of universities in a poor country like India are injurious—if not iniquitous. Education, however high, should be within the reach of all human beings: otherwise a fictitious value is set upon the attainments of the blessed few,—just as it has come to be the case here with the medical, the legal and perhaps also the teaching professions. While the general increase in value has not been over four times during the last fifty years, the services rendered by the above professions are fetching prices tremendously out of all proportion to that general increase. Expensive universities moreover create ideas of high living which, in the case of an Indian is specially injurious, seeing that those ideas are perhaps never to be materialised.

Yet it cannot be ignored that universities must be seats of the highest possible culture, which in the West means money. In the East, however, there is a middle way, which has long lain untrodden and is now well-nigh forgotten. It is the *way of contemplation:* it gives keenness to our powers of perception and makes us do with the unaided organs of sense what in the West would mean a good deal of apparatus and appliance. Moreover, *Introspection* is also the proper and logical method: it leaves the man free to acquire knowledge without making him too much dependent on telescopes and microscopes and all the rest. As knowledge is advancing in the West, the sciences are gradually becoming more and more specialised,—so that a cultured up-to-date man is now an impossibility. But had our culture been dependent on our keenness of perception, no discovery, however new, would be strange to the cultured man. On the western method, the man himself is becoming weak,—while his associations alone are gaining in volume and strength,—indicating at once his glory and his defeat.

Hence *Dhyana Sakti* should once more be revoked in those who would claim to be the finished products of universities.

Vernacular medium is another *sine qua non* of university education. That would enable the students to dispense with the eight or nine years of their prime which is spent in

acquiring a foreign tongue. That would set their energies free for acquisition of knowledge in the arts and the sciences, and what is more leave them time for original work. For in a poor country like India the student cannot beyond a certain age enjoy the privileges of a scholarly life : at twenty-five or so, he must come in to the aid of his needy family and earn for their maintenance ; and no one but an Indian student knows what earning a livelihood means in these days of decency in living and deficiency in ability, for *ability* is a thing which he is never called upon to acquire in course of his university career however long or glorious. Enter the world he must, if he must not break away from the traditions of his birth, and that entering means a period to his scholarly career. A vernacular medium will by saving his time save his career from barrenness which is so often the lot of an Indian graduate.

MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

The Calcutta University is not only the oldest, but also the largest university in the country. Although its limits have been considerably reduced owing to the establishment of other universities, it still commands a jurisdiction which covers an area much larger than any other university in this or any other country. It has no doubt grown as a federal examining university ; but it is perhaps not quite correct to say, as it is often said, that it has not always exercised by its regulations, as well as its prescribed courses of studies and methods of examinations, a teaching influence almost similar to that of a residential university. It certainly suffers from some of the defects inseparable from a wide-spread federal university, particularly in that it fails to create a concentrated educational atmosphere within a circumscribed area consecrated solely to mental, moral and physical culture and advancement of learning in all branches of useful knowledge. In recent years, however, this University has made considerable advance in developing at its centre the character of a teaching university more or less upon a residential basis. It has established colleges of its own in arts, science and law and made some provisions for post-graduate studies with chairs for different subjects. Out of a total of 42 colleges now affiliated to this University, 20, including a well equipped College in Medicine and another efficient College in Civil Engineering, are situated within the city. It were very much to be wished that all these 20 colleges had been built within a compact area of the town. But this was precluded by the fact that most of them sprung up at different times and under different agencies. Of the 42 colleges, 14 are maintained by the State and the remaining 28 are due to private enterprise although half of them are now in receipt of substantial aid from Government. The University also receives from time to time grants from Government with which it helps the private colleges to build hostels for the residence of their students. Most of the colleges in the city have thus been practically converted into residential institutions, though the system has not yet been fully established and "messes" of students still exist scattered in no small number.

The Calcutta University may thus fairly be said to possess a dual character. As far as its origin and main features are concerned, it is, and must remain, a federal university. But with the gradual expansion of its latest developments it is fairly on its way to assume the functions of a teaching residential university. It is too late now to think of completely divesting it of its federal character. It is neither possible nor desirable to convert it into a pure residential university, like Oxford or Cambridge, without causing a violent disruption which is likely to do more harm than good to the cause of education in this country.

MOHAMMAD, Dr. WALI.

I wish first to draw attention to the existence of a strong public opinion in favour of educational progress in this country. Universities are being established at Patna, Benares, Aligarh, Dacca and Mysore. Commissions, conferences and Government resolutions all show the anxiety of Government to improve education. That the British Government

MOHAMMAD, Dr. WALI—*contd.*

has not failed in its task is evident from the great progress of university and secondary education during the last half century. This progress is still more remarkable when the political and social difficulties confronting Government are borne in mind.

That much remains still to be achieved is evident. The present reforms have been begun from the top, while the natural course would appear to be from the bottom. No university can thrive unless primary and secondary education are in a sound state. Unless the university has the right material to work upon, its work will not only be seriously hampered but be of an obviously inferior nature.

Before the advent of British rule in India neither secondary nor higher education were available. Whatever education existed was of an elementary and a religious nature, the professional and secular aspects being almost entirely unheeded. The British Government were long in recognising that the provision of education is a function of the State. In the course of time, however, while reserving the higher posts for persons of British origin, Government found it not only necessary but highly economical to train an adequate number of clerks and petty officials. As British rule became firmly established and the spirit of commercialism and preferential treatment gave place to a broader outlook, steps were taken to start primary and secondary schools and to establish universities. The universities then provided education of a utilitarian but unpractical nature; they drew men from *all* classes, but opened to them only *one* avenue of employment, Government service. As almost all the higher administrative and professional posts were closed to Indians, professional education was neglected. As the official class in India formed the aristocracy of the country, young men, no matter to what class or to what caste they belonged, were eagerly desirous of obtaining Government service. Secondary education was extremely narrow and one-sided in its scope, the result being that the universities were called upon to deal with the work done in other countries by secondary schools.

The Indian universities have failed to devote themselves to the discovery and publication of truth. Learning and scholarship have given way to examinations which are regarded as the be-all and end-all of education and the only means of securing employment. Thus the highest university ideal has never been achieved.

The policy of religious non-intervention has caused the exclusion of religious and moral instruction. Students have been drawn from their homes, gathered together in big towns and forced to shift for themselves without any guidance. Thus the universities have taken no part in the development of a national character. It is deplorable that very few Indian graduates carry back the atmosphere of a university to their homes.

And lastly it is to be regretted that our universities have failed to train their students even to earn their livelihood. The State has not fully realised its duty of developing the economic prosperity of the country by the systematic encouragement of technical, commercial and professional education. The professional institutions such as Roorkee Engineering College and the Tata Institute at Bangalore, often have no relationship at all with a university.

Social and political interests.—It must be admitted that at all times social and political considerations have been the controlling factors in moulding the educational system of India, not only in the form of its educational institutions, but in its methods of study.

The affiliating and examining university has had little influence in developing the latent qualities of the youth of the country. The individuality of the teacher, the peculiarities of the teaching and the idiosyncracies of the pupil have all equally been neglected. The idolisation of examinations has killed the spirit of independent enquiry and prevented the growth of powers of self-reliance, self-help, and the ability to acquire, to utilise, and to increase knowledge. The "keys," notes and abstracts used by students indicate clearly the seriousness of the situation.

The work of teaching depends not merely upon the content of teaching, but more upon the spirit and upon the character of the teacher. The Indian universities are controlled by the Education Department and by the Government colleges. The best professors are said to belong to the latter. The evidence placed before the Public Service Commission showed how ill-equipped are some members of the Indian educational service, who are often men neither of promise nor of achievement, some being only second and third class men and certain others not even university graduates. Some of

MOHAMMAD, Dr. WALI—*contd.*

these men, more or less obliged by circumstances to seek a living in a country for whose welfare they have little or no enthusiasm, fail to exert any deep influence either on the intellectual or the moral development of the youth entrusted to their care. In these respects they compare unfavourably with the far-reaching influence of the missionary professors.

The Indian professor who occupies either a subordinate position in a Government college or a superior position in a private-aided college, is often unimaginative, unambitious and not always learned. Such professors accept posts in a college because they cannot obtain employment elsewhere or because they do not possess either the energy, the ability, or the means to engage in other vocations of life. A really good professor is rarely found on the staffs of mufassal colleges, these colleges being unable through their limited resources to attract men of ability.

A young man, therefore, is not admitted to the Indian educational or subordinate services or to an aided college, because he has sympathy with his work, because he has received pedagogic training, because he has sat at the feet of a *savant*, or because he has shown any originality. I know of several cases of young graduates who, though unable to secure posts as school masters in the Educational Department, have been appointed to good posts as professors in aided colleges.

The power of research—the art of acquiring information for one self—on which real advancement depends, is, as a rule, utterly neglected in our universities. Professors should be not only teachers, but independent scientific investigators. The acquisition of fresh knowledge is as essential a part of their duty as the imparting of the knowledge they already possess. Without research, teaching is apt to degenerate into a lifeless and mechanical system. The influence of teachers of renown and eminence and the importance of post-graduate work cannot be over-exaggerated.

India has not yet learnt the value of the expert—nay, if he is ever found he is looked upon with contempt. India is a country where, if a man wishes to build a house, he will ask his mason to plan and build it, if he is sick he will consult the wayside quack or the advertising charlatan. Education is considered to be a subject which demands neither special knowledge nor special preparation. It is said that all wisdom in Germany is professorial wisdom. It will not be incorrect to say that all wisdom in India is either the prerogative of the bureaucracy or the possession of the legal profession. That neither the State nor the public nor the universities are alive to this need is evident from the following significant facts:—

(*a*) The Vice-Chancellor—the acadamic head of the University—is almost invariably a judge of the High Court or a lawyer; a professor is seldom appointed. All the universities are more or less alike in this respect. The Senates and Syndicates are generally presided over by judges of the High Court and dominated by lawyers of eminence.

(*b*) The managers and governors of private colleges are rarely persons engaged in educational work, but often persons possessing little or no knowledge of education or educational methods. For example, among the members elected by the Hindus to promote the Benares University and by the Muslims to promote the Aligarh University no professors were included. Reference also is directed to the class of persons who preside at the various educational conferences.

(*c*) It is curious that in none of the colleges of Indian universities is there a chair of education or pedagogy. No one, except in the Education Bureau of the Government of India—(the work of which, though essentially of an official nature, cannot be ignored)—is engaged in inquiring into the objects of education and determining the means of attaining them. There is much adverse criticism of the present educational system, but there appears to be no agency to stimulate in any appreciable degree, the scientific study of methods of teaching and the philosophy of education. No one is devoting thought and labour to the science and art of teaching.

There is no denial of the fact that the colleges are congested with students whose inadequate attainments render them unfitted to benefit by university training. This is due to the defective knowledge of English (which must remain the medium of instruction

MOHAMMAD, Dr. WALI—*contd.*

at the universities) and to their imperfect secondary education. The first two years of a student's career at the University are spent in repairing deficiencies. There need be little wonder at the terrible wastage. Out of 100 matriculates in the Allahabad University, only about six manage to scrape through and secure an ordinary B.A. degree. Not more than one in 300 or 400 obtains a first class. In all the Indian universities only nine out of every 100 matriculates, on an average, succeed in taking a degree.

It is said that in India a degree has not only a market value for employment, but, in some provinces, has a fixed value for matrimonial purposes. A degree signifies something quite different in the East from what it does in the West. Respect is paid to a university graduate on the continent because it is felt that he has penetrated some little way into the Holy of Holies, has striven to attain an ideal, and in some degree has cultivated his imaginative powers. The Cambridge and Oxford degrees are regarded of value because they are a proof that their possessors have lived for some time under certain conditions which are recognised to be productive of good. In India a degree indicates neither a stage of maturity nor a standard of attainment; it is not even always a proof of having undergone a useful training. That letters of alphabet attached to a name have the effect of a charm is a belief which students are not alone in holding. In what other country of the world do we find I.E.S., I.C.S., etc., etc., affixed to a man's name?

Whatever be the classical or idea conception about education, the doctrine of "Knowledge for its own sake" is perhaps more or less a pious aspiration. In a country where the means of subsistence are so small and the margin dividing starvation from bare existence so narrow, it is expected that education should prove remunerative in the shape of rupees, annas and pies. It is felt that the State should not only throw open to its best men all the posts of the public service, but should help in the development of industrial and agricultural and other resources of the country and thus assist in turning out, to quote the words of the King-Emperor, "loyal, manly and useful citizens, able to hold their own in industries, agriculture and all the vocations of life."

The Indian universities have not included in their curricula the applied sciences or accorded them full academic dignity. The State does not invite the assistance of the university professors in solving the problems confronting it.

Pure and applied sciences are divorced from each other, and technological or industrial institutions are not only located far away from the university town, but removed totally from its influence. The atmosphere engendered by the simultaneous working of many minds on numerous, but inter-dependent branches of research is missing, and the professional institutions such as the Engineering College, Sibpur, degenerate into mere technical schools.

The universities should provide education not only of a liberal but of a practical nature. They should be concerned with things and with actual life, and be in keeping with the environment and the needs of the country. "It is very desirable that young men should sojourn in a temple of learning where noble ideals, high thinking and disinterested knowledge have a first place. There need be no desecration of the temple and no demeaning of studies in seeking to link them in a close and effective way with the industrial arts just as they have been so long linked with the learned professions."

Efficiency always entails the imposition of hardships upon the unfit and the inefficient. In education, efficiency cannot be secured without imposing restrictions of some sort. While primary education should be the birthright of every citizen, secondary education should be as extensive as possible. But university education should be claimed only by those who are fit to benefit by it. Even in Germany it is considered "very dangerous for the University if large numbers of students, who are not properly developed, frequent them." It is time that the public should be prepared to understand the real meaning of university education and expect only its best youth to enjoy it. Higher education should be encouraged and not checked by any artificial means.

Another point of great importance often ignored in our country is this. Parents expect too much from the school and college and by trying to shift on the teachers the whole burden of educating their children in manners and morals neglect the home training. Sometimes parents even imagine that their interests are antagonistic to the ideals of the college and the University. Hostility, latent or active, developes. Whenever a well-meaning teacher tries to take an interest in his pupil's general welfare,

the parents tell him to mind his own business, to teach according to the syllabus and not to bother about the character of the student. This attitude is observed in many places where the hostel system is introduced and the teacher tries to mould the character of his wards. The attitude of parents, the outcry in the press, and the utterances of the leaders when the students go on strike—and strikes are so frequent and easy—require no comment.

SEN GUPTA, HEMCHANDRA.

At present teachers have little or no voice in the University. Many colleges have no representative in the Senate. The principal of every college should be an *ex-officio* fellow. At the present moment only ten members of the Senate are elected. In future at least half the members should be elected.

XXI. UNIVERSITY POLICY, CHANGES IN.

General Memoranda.

ACHARYA, Dr. KEDARESWAR.

The present conditions of admission to the University by passing the matriculation test do not appear to qualify the student to follow the university training with facility. The matriculation standard should be raised to include, at least, the courses of study now prescribed for the intermediate examination; and university education should be restricted to what is required to obtain degrees.

A ten-years' course in the schools may be devised to enable a student to qualify himself for entrance to the University and the present arrangement of allotting two years more for the I. A. & I. Sc. may be done away with. In the first seven years English should be taught as a second language, other subjects being taught through the medium of the vernacular; in the next three years English should be the medium of instruction.

This arrangement while doing away with an intermediate examination will also save time by two years.

In the University, English need not be taught to those whose general course of study will be other than linguistic.

University education should not take up more than four years: two being for the first degree and two for post-graduate studies.

Students after passing the Matriculation (as proposed) should be allowed to read for degrees in law, medicine, engineering, arts, and science.

A university on the lines of the Dacca scheme, with necessary modifications to suit local needs, may be established at other centres of population within the Presidency in future, and one may be established now at Rajshahi with provisions to include in the curriculum instruction in —

(*a*) Applied chemistry.
(*b*) Agriculture.
(*c*) Botany.
(*d*) Indian antiquities, with special reference to Bengal.

The resources which exist at present in Rajshahi for the formation of a centre of learning are, no doubt, less than those at Calcutta, but are not in any way less than those at Dacca; Rajshahi, as the most important town in north Bengal, has some advantages to suit the requirements of university life. Public health is good, living is not dear, and the Rajshahi College has already a large compound which may be extended to accommodate all necessary buildings for a residential university; the value of land being cheaper than in Dacca the outlay will not be excessive.

As Rajshahi is situated in the old province of Varendra, noted for agriculture, it may be made a convenient centre for specialising in agricultural education and industrial education connected with agriculture. The existence of an agricultural farm here will give additional facilities in this respect. The history of ancient Bengal is, to a large extent, the history of the Varendra tract in which Rajshahi is situated, and this may give special facilities for imparting instruction in archæology, anthropology, palœography, etc. The museum of the Varendra Research Society will afford special facilities for study and research work in connection with the history of Bengal. The natural resources of the Rajshahi division will, it is hoped, bring the students in direct contact with valuable raw materials for the study of applied chemistry.

The district of Darjeeling, the terai, and the plains of north Bengal are rich fields which have hitherto been practically left unexploited; they offer special facilities for the study of botany in its various aspects.

As the State cannot be expected to provide all graduates with employment in the public services, and as the congested professions of law, medicine, and engineering cannot be expected to give continued employment to increasing numbers, university education should now commence to give such useful training to the rising generations as may enable

them to earn a livelihood by utilising and developing the natural resources of their country. The existing system of university education in Bengal has from the beginning ignored the special intellectual equipment of the Bengali people which may make them independent of the public services and learned professions. All colleges affiliated to the existing University have endeavoured to impart instruction according to a stereotyped curriculum without any reference to the special needs of different localities. The education in general has been mainly theoretical and of a character which may be called clerical. Students of the existing University in Bengal know more of other countries than of their own. Their education makes them helpless if they cannot secure admission to the public services or show special aptitude for the learned professions.

If, however, it may not be found practicable, now or in the near future, to establish a university at Rajshahi, the local college should be allowed to remain affiliated, with the Calcutta colleges to any university that may be established for imparting the highest training to Indian youths of ability. The University aiming at this desirable object should include in its curriculum the subjects noted above, *viz.*, applied chemistry, agriculture, botany, and Indian antiquities, with special reference to Bengal.

In the matter of internal management all colleges outside Calcutta should be allowed autonomy, not inconsistent with imparting the highest training indicated.

AIYER, Sir P. S. SIVASWAMY.

Like most other administrative problems the problem of university reform will be found to resolve itself eventually into a question of finance. Unless the Government recognise the importance of university education and are prepared to allot more funds no substantial improvements will be possible. Any scheme of university reform which may be contemplated must take note of certain considerations which in the special circumstances of the country are of vital importance.

The following considerations may be laid down as postulates:—

(*a*) There is great need for advance in education of all grades and types, elementary, secondary, collegiate, and technical, that advance in any grade or kind of education should not be effected at the expense of advance in any other grade or type, and that the State should recognise its obligation to promote education on all lines in the interest of the well-being of the country.

(*b*) The existing facilities for collegiate education are none too large with reference to the population and the special need for western education and they should be increased rather than restricted under the plea of effecting an improvement in quality.

(*c*) In view of the poverty of the country, the cost of university education, which is already high, should not be further increased and on the other hand, it should be made possible for all students of ability, to whatever class they may belong, to receive the benefits of university education.

(*d*) In framing any proposals with regard to the courses of instruction or the age of matriculation it should be borne in mind that in a country in which the average duration of life is very much shorter than in more temperate regions the average age at which it should be possible for a man who takes an arts degree and goes through a course of professional education to enter life should not exceed twenty-five.

(*e*) So long as it is not possible to have several universities in the Presidency the existing University must continue to be of a federal and affiliating character. This consideration, however, need be no impediment to the introduction of the residential system in the various colleges which are affiliated to the University.

ARCHBOLD, W. A. J.*

Whilst all are ready to acknowledge the effort that has been made during late years to improve the Calcutta University and whilst all are very grateful to those who have spent their time and energy in its service an opinion has steadily gained ground that much in the university standards, constitution and administration requires alteration. It is thought that it will consolidate opinion in these matters and give direction to efforts for future improvement if we come to some sort of agreement. The following have therefore been suggested as the main ends that we ought to strive to secure.

(*a*) We should like more power to be placed in the hands of those who are actually engaged in the teaching of students. Every principal of a college affiliated to the University should be *ex-officio* a member of the Senate, and those powers which are at present vested in the Syndicate with regard to the admission of students to examinations and other similar matters of college discipline might well be exercised by a committee of the heads of the colleges.

Apart from the principals we feel that the professors in the colleges ought to have a far larger share in the administration of the University than is the case at present, and that as a general principle a professor in a college is a more suitable person to exercise university functions than a busy Calcutta lawyer or doctor, however eminent in his particular sphere.

(*b*) We should like to see the work of the University carefully arranged with a view to the best interests of the colleges. We believe that this will only be secured by harmonious arrangements made in consultation with the colleges and that no good will come of building up a separate and, to some extent, rival organisation in which the colleges feel they have no part or lot. Hence, we think that on any board which deals with the post-graduate teaching of the University the colleges should be very fully recognised.

In this connection, we would deprecate very earnestly the growth of a body of so called university students. The University of Calcutta, if it is to be anything, must consist of its colleges, and every student whether graduate or post-graduate ought to be a member of, and responsible to, a college. The breaking of the tie which connects a student with his college is bad for the student, bad for the college, and, ultimately, bad for the University.

(*c*) We should like to see the system on which the university examinerships are arranged entirely recast. We feel that the examiners themselves should be usually either professors or lecturers actually engaged in teaching in the University and carefully selected from as wide a field as possible; that the honours papers and the papers of the M. A. examinations should be scrutinised by at least two examiners; and that it should not as a rule be possible for one man to hold an examinership in several different subjects. We should also like some reform in standard to be instituted as the result of an independent and searching enquiry. Such enquiry should never be relaxed and constant effort should in particular be made to see that those who enter the University are fit to profit by a university course of instruction. It is obvious that the raising of the standard which is suggested here and later on will involve a reform in the secondary schools and that no real change in the University will be effected unless a corresponding change is made in the standards, and methods of work in the earlier stages of a student's career. We believe, however, that the University can do a good deal to improve the schools and that it ought, as it is at present to some extent responsible for their condition, to devote more attention to the matter.

(*d*) We are anxious that some approach to the proper relation of teacher to student should be attempted. With this end in view we would suggest that the

*This memorandum was circulated in July 1914 by Mr. W. A. J. Archbold among all the professors and lecturers in the constituent colleges of the Calcutta University and in the University itself.

numbers allowed to be present at one time in a lecture should be steadily lessened. The present tendency seems in the opposite direction.

(*e*) We hope that, four years being recognised as amply sufficient for a university course in other countries, that period will be recognised as such here, and that Government will in making appointments look to good B. A.'s. and as a rule not require the M. A. as a qualification. In this way the standard of the B. A. will rise and it will take its proper place as testimony that a man has the initial qualification for entry into active life. This, however, can never be the case while the first two years of the students' university career are, as at present, devoted to what is really school work.

(*f*) We do not feel that the life of the student as lived at present in many cases in Calcutta particularly, is in any real sense life in a university. Too often he passes his time under very unsatisfactory conditions. He has little connection with his college; whilst his connection with the University probably seldom occurs to his mind either during or after his academic career.

The first and urgent need of the Calcutta University is the better housing and the better oversight of its students and everything should be postponed to this.

If you approve of the lines of progress indicated above will you kindly sign this paper and send it to

W. A. J. ARCHBOLD,

Ramna, East Bengal.

If sufficient support is forthcoming it is proposed, at a later stage, to publish the memorandum with the signatures and to forward it through the Rector, Vice-Chancellor and Syndicate to the Chancellor of the University.

BANERJEE, RAVANESWAR.

A thing to be never lost sight of is that India is a very poor country. Her standard must, in consequence, be lower than that of other rich countries like England. Highest efficiency must remain an ideal for some years to come. Best quality should not be aimed at, at present, at the expense of quantity.

It is the people of moderate means that form the bulk of university students. The University should be run cheaply so as to be open to those poor students and not merely to the wealthy few. It should also be adapted to men of average ability. It cannot devote itself solely to the highly intellectual few.

Residential universities are not suited to local conditions; the strongest objection is its costliness. There are many poor, but intelligent, students who depend upon their incomes from private tuition. The opportunity should not be taken away.

Post-graduate research work should be encouraged. Research scholarships, now awarded, are a waste of so much money as they cease before the researches bear any fruit. These should be life posts. Benevolent rich people should endow research; the State might help too.

There are good, bad, and indifferent teachers and professors. Few of them have had any training in the art of teaching. A course of training should be insisted upon in case of new recruitment.

The M. A. and other degree classes should not be confined to one centre only. Different colleges should be allowed to gain a reputation, by competing with others, in teaching particular subjects up to the highest degree, in a manner superior to the rest.

Vernaculars should certainly be encouraged. But the British rule in India renders a good knowldege of English absolutely necessary; and as no sane man would desire a transference of the Government English must be the *lingua franca* for India.

A scientific subject like hygiene, which is so useful in everyday life and which can be taught without the help of costly instruments, should be made a compulsory subject in the university course. Compulsory physical exercise should be insisted upon. Indigenous games should be encouraged.

BANERJI, UMACHARAN—BHATTACHARYYA, HARIDAS.—Chittagong College, Chittagong Representatives of.

BANERJI, UMACHARAN.

I must emphasise two things; that education becomes cheap and efficient, and, secondly, that the educational institutions are run on national lines.

Ours is a poor country, and increase in the cost of education would mean the closing of its doors against the great majority of our boys and youths. But increase in efficiency would necessarily entail increase in cost. Means, therefore, must be devised to meet the increased expenses without allowing them to press heavily upon the poorer students. I think they can be sufficiently met from Provincial revenues, or if that be quite impracticable, by imposing an education tax upon the well-to-do classes.

It is nothing short of a blunder to look to the great universities of the West alone as fit models for those of our land. To import institutions from the West and hoist them upon the peoples of the East betrays a lamentable lack of foresight. Mere copies of western institutions can never satisfy the intellectual cravings of the men of the East. We have our traditions—and they are widely different from those of the West—and we cannot spurn them. Any educational system, to be suited to us, must not take us away from those traditions, but must be consonant with them and must cherish them; otherwise its fate is almost sealed.

BHATTACHARYYA, HARIDAS.

The University ought to recognise the value of its own degrees and protect the degree-holders. No preferential treatment ought to be shown to degree-holders of foreign universities. This only increases mutual jealousy and resentment. "The atmosphere of inferiority" in which Indian graduates are bred is positively odious.

The distinction between the Provincial educational service and the Indian educational service ought to be abolished and the whole service reorganised on the basis of merit. Not more than 25 per cent of the whole service ought to be filled by foreigners.

Only first-rate Europeans ought to be given educational posts in India. The standard of worth in European professors is gradually decreasing while Indian professors are far better educated now than before. Almost all the research work is now being done by Indians.

A provident fund for all teachers ought to be established at once to which teachers and Government ought to contribute half and half. Teachers seldom leave any provision for their dependents.

The pecuniary prospects of teachers ought to be bettered and a scale of pay and promotion ought to be fixed.

Government ought to find employment for trained men or help them with State subsidy, State aid, and State patronage.

Primary education should be made compulsory and free so that an educated electorate, for political and non-political purposes may be gradually formed.

The rigidity of the examination system ought to be relaxed to diminish the physical and mental strain of students during their university career.

The academic element ought to predominate in the government of colleges and the University and the official element be minimised. In European-managed colleges the Indian staff ought to be represented on the managing committee.

There should be a system of exchange professorships and examinerships among the different Indian universities.

Research fellowships ought to be founded as in the Dacca University scheme.

In the honours college students should be allowed to take up French or German in lieu of Bengali. This is very desirable.

Chittagong College, Chittagong, Representatives of.

Little provision for higher work in this college by affiliation in honours and provision for post-graduate teaching.

Chittagong College, Chittagong, representatives of—*contd.*—COYAJEE, J. C.

Want of facilities for willing professors for research work on account of insufficient library and laboratory equipment, and over work on the part of some of the professors. It may further be noted that library and laboratory equipment in the college is not sufficient even for ordinary preparation work for class lectures.

Teachers have no share in the framing of the courses of studies, syllabuses, and the conduct of examinations. The only thing that some of them do is to examine papers as sub-examiners mechanically.

The appointment of the principal as a member of the Senate (which also is not an *ex-officio* appointment) is not sufficient to represent the views of the teachers with regard to the points mentioned above.

Paucity of representation of the mofussil colleges in the University in regard to organisation, management, and control of university affairs, these being largely in the hands of Calcutta men.

Difficulty of transfer from an ill-equipped college such as that of Chittagong to a better equipped one is considerable, and consequently the intellectual level of the teachers deteriorates. The teachers of Chittagong, for example, have no chance of improving themselves by coming in contact with specialists in their respective subjects.

The college has no college council and hence there is no co-operation between the principal and teachers.

A residential university may be allowed to grow in Chittagong. The reasons in favour of such an university are:—

(*a*) General teaching suffers for want of association with post-graduate teaching. Teachers cannot improve themselves under the present arrangement.

(Against this view some of us hold that adequate library and laboratory facilities and sufficient leisure are enough to improve teaching as well as the teachers.)

(*b*) Congestion in Calcutta requires relief by opening centres in other places, Chittagong being one of these places. Chittagong, on account of its favourable geographical situation and easy communication (to the rest of the division) and commercial importance, may be regarded as a convenient centre for a university.

(*c*) The supply of matriculates from Chittagong and its adjoining districts is quite sufficient to meet the requirements of a university and the number of students of this division who have to read in distant colleges on account of want of facilities in the Chittagong College is also quite large. Chittagong being inhabited by middle-class men generally, there is a great desire here for higher education. This is proved by the very rapid growth of many schools within the last few years. (The number has been almost doubled during the last four or five years.)

(On the other hand, those who are not in favour of a university in Chittagong hold that Chittagong has no academic atmosphere. A university is bound to turn out badly and the money required for such a venture could be more profitably spent on improving the facilities of the library and laboratory of the existing college.)

The present situation of the college may be considered as a suitable spot for the creation of a university if the adjoining lands and hillocks are acquired. The quarter is quiet and land is easily available for extensions to meet the requirements of a university. Association with the commercial atmosphere of the place will be highly beneficial to the development of technological interests. Chittagong is probably the only place in India where ships are built by native craftsmen, and a nautical college with mechanical engineering and electrical engineering may be hoped to thrive.

COYAJEE, J. C.

I wish to submit some notes on subjects connected with the questions drawn up by the Calcutta University Commission. I do not desire to try to answer the questions individually; I would rather take advantage of the general permission to put in "expressions of opinion on any other points pertinent to the Commission's inquiry". My

COYAJEE, J. C.—*contd.*

note is divided into two parts ; the first part deals with some reasons why " the existing system of University education does not afford to young Indians of ability full opportunity of obtaining the highest training." The second part deals with certain general recommendations which I venture to submit.

Coming first to the main respects in which I consider the existing system deficient I would emphasise the unsatisfactory ideals of our education in the past, the unsatisfactory division of labour between the University and the schools, and the great room for improvement in the status and qualifications of our teachers.

The unpractical and literary ideals of our education in the past have caused a great deal of harm. During my first interview with my venerated teacher—Professor Marshall, of Cambridge—he contrasted and discussed with me the old Indian and the Japanese ideals of learning. To the Indian, he said, learning appealed as something good and noble in itself ; to the Japanese it appealed as something which could be utilised and turned to account in the struggle for existence. The eminent professor has repeated these views in a letter to one of my friends. " For twenty years I have been urging on Indians in Cambridge to say to others ' How few of us when we go to the West think of any other aim save that of our own individual culture ? Does not the Japanese nearly always ask himself in what way he can strengthen himself to do good service to his country on his return ? Does not he seek *real* studies ? ' " Far different was the older Indian ideal and that ideal was reinforced by the literary ideal of those who introduced the present system of education in India. This cumulative idealistic tendency has led to the present state of education in this country. Of this system, what might be called literary studies form the main body while tags and fringes of scientific, technical, and commercial education have been attached to it by an after thought as it were. The injury caused by this state of things is of a grave nature. In the first place, it is clear even to the students that such education is of an unpractical nature and leads to nowhere. The enthusiasm of the student is damped by seeing the comparative fruitlessness of the work at which he is toiling. The atmosphere of industrial revolution and industrial progress is beginning to permeate India ; older ideals are being shaken, and in such a condition of national psychology the universities with their present lines of teaching cannot appeal to the enthusiasm of students. It would be otherwise if the main body of our teaching was of a practical nature and the literary and the speculative side was only one of the features, or, at least, if there was an equilibrium and fair intermingling of literary and technical studies. I venture to submit that our educational system should have for its distinguishing feature the ideal of practicability. Such an arrangement will at once excite the enthusiasm of the students, will be a corrective of the national psychology, and will form a national asset. Our education should be many sided so as to cater to the variety of the talents and needs of the alumni. A great change is at present coming over the educational systems and ideals in England and the present opportunity should be taken to transplant some of these new ideas here.

There is no doubt that much defective material is at present entering our colleges. Students come to us with too slender an equipment and even at too early an age to benefit by university teaching in its best sense. The school period should be extended by a couple of years and the school curriculum should be raised to the present I. A. standard. The relation of the University to the school should be more clearly defined and on better lines. The former can only serve as the crown of educational work, but, quantitatively speaking, the greater part of the educational work for the many should be done by organised systems of schools, guided, of course, by the advice and regulations of the University. There should be a due division of labour between the two ; as things are the University might be said to be encroaching on the province of the schools to a considerable extent.

There is much room for improvement in the status and qualifications of the teachers. Their zeal might be encouraged by enlarging the sphere of their work. To a certain extent, at least, the leading teachers of the University should be allowed to have a share in the practical development and activities relating to their subjects. Thus in England the services of a professor of engineering or other technical subjects have been utilised by various Government departments. Thus some of them have been employed as consulting engineers. In America the energies of professors of economics

COYAJEE, J. C.—*contd.*

have been utilised by statistical or other economical bureaux. Professors of history might assist in the Archæological Department. This improves the knowledge, insight, and prestige of the teachers; and it also exalts the colleges in the esteem of the public as well as of the students. It also means better prospects of employment for the pupils of such teachers.

To come to another matter. We have many good teachers, but very few eminent teachers. It is admitted that for the least alumni of the British universities there is a great and growing demand both in the United Kingdom and in the colonies. But India should not consider any pecuniary sacrifice too great if it can enable us to import even one or two of such men. No improvements in the system and organisation of education can take the place of a single such teacher. Two such men — Grant and Wordsworth—raised the tone of education in Bombay for half a century and it is well known that all the distinguished men in western India were the pupils of these two men. But, to take a greater example, what would Japanese education have been without men like Lafcadio Hearn? Much good, it is admitted, is being achieved by inducing foreign savants to pay flying visits to our country; but if even one or two such men could be induced to settle in India by offers not only of very high pay, but of exceptional position in the councils of the universities, the benefits could be greatly multiplied.

The main lines of improvement which I venture to submit might thus be described briefly. The school course should be extended by a couple of years and what are now I. A. studies should be taken up by the schools. We want a greater variety of high schools, and high schools should be opened for affording instruction in commerce and industry. The matriculation examination should be widened so as to include not only literary subjects as at present, but so as to include examinations in commerce, agriculture, and industries. Of course, each of these special examinations should include papers on English literature as well as on history and general knowledge. This means that instead of the one portal now open to those who would enter the University there would be four or five portals through which students would enter the University to join the various colleges—colleges of arts, agriculture, commerce, or engineering. The increased age and tuition would guarantee that the students would be ready for specialised studies as soon as they leave the schools. The matriculation examination thus improved and strengthened should be accepted by Government as qualifying for Government service; while the University should undertake to keep the matriculation standard fairly high so as to satisfy not only Government, but also other employers of intellectual labour. Moreover, such a matriculation examination will form a distinct educational landmark for another reason. At present, our literary education is drawing away far too many boys from parental occupations, and we have thus the phenomenon of a rural exodus of talent. But after the new examinations or termini of studies of a practical nature have been instituted many of the students will naturally go back to their paternal trades fairly equipped. Thus school education would tend to strengthen, and not to deplete, the ranks of those engaged in industries and trades. The student who passes at present the matriculation examination is good for nothing in the literal sense of the phrase. He cannot be said to have had a satisfactory grounding on the literary side. He is not fit for employment in Government or commercial offices. He has lost touch with his paternal occupation and has imbibed a distaste for it. "Back to the land" and "back to industries" should be our maxims, but the students should be sent back equipped with technical knowledge.

Coming to the college studies I beg to recommend a three-years' course of specialised studies for the B. A. degree. Students would enter the college at about eighteen and would leave by about twenty-one, as is now the case in English universities. As so many students will after the "Matriculation" have gone into service or business only those would be left who were really keen for specialised studies and most, if not all, of them should go up for an honours course. The honours degree would then be the rule and the pass degree the exception. There might, however, be pass degrees for sons of rich folk and the gentry. As to the college courses I would again emphasise their practical aspect. Thus, in economics we should have among the text-books prescribed a large number of the best reports. Indeed, these reports should be the real bases of the teaching work. Thus, to take one example, the lecturer on international trade should not begin unless

COYAJEE, J. C.—*contd.*—DAS, RAJ KUMAR—DE LA FOSSE, The Hon'ble Mr. C. F.

the pupils are provided with copies of the reviews of trade of India and other countries. The teacher should begin by explaining the figures and instructing his pupils how to read the statistics before them, and it is on that basis that he should build up the superstructure of theory.

For the M. A. degree I would recommend that each student besides passing the examination should also compose a thesis. I would not glorify such work by the name of research. What I want each student to do is to take up some small branch of his subject, collect all the material that he can about it, and try to digest the material, thus developing a taste for active studies as distinguished from mere reading. It is the composition of such a thesis which will give a reality and importance to the "seminars" which we now possess.

DAS, RAJ KUMAR.

A large percentage of students both in the secondary schools and colleges are unfit for higher studies in English literature, history, philosophy, or classics. This is not mainly due to defective teaching, but to an inherent incapacity or disinclination on the part of the pupils, for it is often noticed that younger boys in the same class and under the same master learn English, classics, or the like more quickly than boys much older. In trying to master those subjects they not only prove a drag to the teachers, but waste many precious years of their lives. What is wanted is not simply to weed out these students as unfit, but to create useful openings for them. Though these students, as a rule, are found at the bottom of their class on account of their inability to learn those subjects, many of them possess a strong common sense, fine physique, and a practical turn of mind. Facilities should be given them for professional education in medicine, engineering, agriculture, commerce, etc. As medical and engineering institutions are too few in number new ones should be opened without delay. There should be a bifurcation of studies in the two top classes of high English schools, where the courses of studies should be so regulated as to prepare students for admission to higher technical or professional studies in colleges. The medium of instruction in these classes, both in schools and colleges, should be mainly vernacular or bilingual (English and vernacular).

DE LA FOSSE, The Hon'ble MR. C. F.

Can the standard of matriculation be raised ?

Though candidates are admissible to the matriculation examination at the age of sixteen the average age for matriculation within the territorial jurisdiction of the Allahabad University is eighteen years. I do not know what the average age for matriculation in other universities may be, but I think it would be worth while for the Commission to ascertain it before answering the question asked above. If the standard of matriculation were raised it is probable that the average age of matriculants would be more than eighteen years. I do not think it desirable to postpone the commencement of university education in the case of ordinary students to an age later than eighteen years. I am, therefore, of opinion that the standard for matriculation cannot safely be raised.

At the same time, I would like to call the particular attention of the Commission to the percentage of marks required for a pass at the matriculation examination. The scrutiny of a few answer books of candidates who have secured a bare pass would, I think, lead to the conclusion that candidates are able to pass a matriculation examination without attaining to anything like the standard aimed at in the courses of study.

I do not think it would be possible to obtain in sufficient numbers at present teachers competent to teach up to higher standards. Raising the standard would necessitate practically the restaffing of high school classes. Higher rates of pay and the efforts of training colleges may in time result in producing men who have the ability, energy, and conscientiousness necessary to bring the teaching into line with the standard aimed at in our present courses, but I am doubtful whether it is safe to contemplate the possibility

of carrying the education of high school scholars much further at school. To put the matter briefly, the first necessity is a more exacting examination of candidates for matriculation. Raising of school standards, if at all, should come thereafter.

What should be done with affiliated colleges scattered about in districts away from university centres ?

I am entirely in agreement with the view of those who wish to see centralised teaching universities established in India, but I cannot bring myself to support any scheme which would result in the closing of existing outlying colleges or in their reduction, as has been suggested, to glorified schools. Speaking generally, these colleges have come into existence in response to genuine local demands for collegiate education. They may be, and often are, institutions of doubtful utility from a purely educational point of view; but they afford some sort of facilities locally for higher education, and any proposal to close or reduce them generally on the plea that they cannot be made to fit in with a scheme of centralised universities would arouse passionate opposition. It might, indeed, result in wrecking altogether the work of the Commission from the amount of prejudice which such a proposal would give rise to all over the country.

I am of opinion that affiliating universities must still continue. I do not myself see why they should not be allowed to exist side by side with centralised teaching universities. I would not, however, in any circumstances, recommend attempts to combine the two. Any such attempt would, I am sure, produce results little better than those now achieved with affiliating universities. The aim should rather be to establish at certain centres new universities on approved modern lines. In time the manifest superiority of these universities, it might be hoped, would bring about a change in public feeling. Parents would find it to their advantage to get their sons admitted to the new universities rather than have them taught locally for the external examinations of an affiliating university. Outlying colleges would gradually disappear and affiliating universities would, in time, convert themselves into centralised and teaching universities.

DUTT, REBATI RAMAN.

In order to justify itself in efficiency the University should claim to fill up the highest offices in the State with its own graduates and should provide for reasonable facilities for the above purpose. All the universities in India should make joint representations to the Government of India and to His Majesty's Government in England to hold simultaneous examinations in India for the various Indian services, *viz.*, the Indian civil service, the Indian medical service, the Indian police service, the Indian forest service, the Imperial agricultural service, the public works department, etc., so that students of Indian universities might get reasonable facilities for entrance into these services. If this right be not conceded, the universities should combine in keeping institutions where the pick of our youths may be trained for the above services in India and should keep a hostel in London where these students might go and live for a short period and appear at the examinations. The appointments in the Indian educational service should be filled up mainly from the students of Indian universities except where research professors of eminence have to be brought from abroad at a special rate of pay.

The scope of work for the Indian universities should be so enlarged as to make the nation self-sufficient, and thus there should be these additional faculties of agriculture, commerce, technology, music, theology, oriental studies (Sanskritic, Islamic, Buddhistic), and of Indian systems of medicine. The University should be truly Indian in the nature of its course of studies and it should further have a faculty of interchange to translate famous books of the West into the vernaculars of the East and famous books of the East into the vernaculars of the West. Honorary M.A. degrees should be granted on the success of these published works of translation.

The University Senate should be thoroughly representative in character, 75 per cent of its fellows being returned by the faculties of law, medicine, arts, science, engineering, and the additional faculties mentioned above. Head masters of schools and professors should also have the right of sending up some members direct to the senate, and the registered graduates of every district will send up one member to the Senate. No

DUTT, REBATI RAMAN—*contd.*

district should be allowed this right which has less than 100 registered graduates. The district of Calcutta will send up 10 members. The total number of fellows in the Senate should be 125.

The Senate should have a board known as the College Education Board and the Government grants-in-aid for colleges should be made over to this board, which will make grants according to the requirements of various colleges. The University should have its own inspectors of colleges.

The University should have its branch organisations in the district known as the District Education Council and the affiliation of new schools will be made primarily upon the recommendations of this council. The district member of the senate will be a member of this council, which will consist of the men of influence in the district and the Government inspector and assistant inspector of schools. This council will further administer the Government grants-in-aid for high English schools and the District Board grants for primary and middle vernacular schools. Inspectors and assistant inspectors should report all irregularities in school management to this council, and the business of the chief inspector, or Director of Public Instruction, would be to supervise the work of the inspectors and to report all irregularities to the senate. It may incidentally be mentioned here that these inspectors and directors should always be men who have had experience of similar work in Great Britain and not merely graduates of foreign universities.

The Senate should have an appointments board and appointments in the Provincial educational service should be usually made on the recommendations of this board. With the creation of more universities in the province each university should have the right to appoint professors within its jurisdiction, exception being made only when eminent professors are drawn from abroad.

The course of studies should be considerably simplified in classes III to VII, teachers being given the maximum of latitude as regards text-books, examination, and promotion. Promotion in these classes might be given twice in the year and there should be an amalgamation of class work as regards individual students in the particular branches. Text-books for these classes should usually be prepared by the higher class teachers, in combination with these class teachers, and as a preliminary step to that stage, the head masters of district schools might combine to prepare text-books for these classes of the district schools.

In classes VIII to X the matriculation course should be regularly taught and promotions in these classes should be annual.

History, geography, physical geography, and science, including hygiene, should be made compulsory for the matriculation course.

The college course should be divided into particular groups according to the principal subject taken up and the intermediate course should be suited to the requirements of the particular subject.

In matriculation there should be eight papers:—English 2, algebra and geometry 1, Sanskrit or Persian 1, Bengali 1, history and geography, physical geography, and science 1, arithmetic 1—the last three papers being in Bengali.

In the intermediate course there should be ten papers, four papers in the principal subject and two papers in each of the three subsidiary subjects—five of these papers will be in vernacular.

In the final course there should be eight papers, four papers in the principal subject and four papers in the subsidiary subjects, two papers in the principal subject and one paper in the subsidiary subject being in vernacular.

Examinations should always be held biennially in the matriculation, intermediate, and final courses, and an examinee failing in two or three papers in the subsidiary subject should appear in these papers only six months later. Those who fail in the principal subject will go back for a year. Questions should always be set from the broad and salient features of the book and alternative questions should always be given. If students and teachers do their work honestly 50 to 60 per cent of boys should pass these public examinations from every school or college and an enquiry should be held when an institution passes less than that percentage. No artificial obstacles should be created for keeping down this percentage of passes.

Individual attention cannot be properly paid to a class of 150 students and this number should be reduced to 80 or 100, but, at the same time, there should be a sufficient number of colleges for all those who seek university education. Every professor owes it to God and to humanity to impart education to any one that seeks his assistance and it would be a sin to turn away any youth. Morning and evening courses of lectures should be allowed in existing colleges and the University should make direct efforts to organise new colleges wherever necessary. The Senate should have a university extension board for this purpose and this board will have co-opted members from the Mufassil.

The University will further grant licenses to societies of tutors who would train students in arts for the university degree as external students and these students will add the word "external" after their degree.

There need be no fear that a college would be financially unsound with this limitation in the number of students and with fee rates kept at Rs. 5 or Rs. 6 because with the grouping of the degree course into different subjects it will be possible to manage a college with fewer professors than at present.

Post-graduate lectures should always be conducted by post-graduate professors under the organisation of a post-graduate council.

There should be a similar organisation, *viz.*, a council of under-graduate studies, consisting of the pick of professors for the under-graduate course and they will deliver inter-collegiate lectures under the direct control of the University.

Text-books.—The University should always encourage text-books to be prepared by its own professors. Vernacular text-books may be prepared under the control of the Faculty of Interchange.

Research.—There should be kept research scholars in every subject who will get a remunerative allowance of at least Rs. 150 a month and these scholars should be assured a permanent prospect either in Government employ or as university lecturers. Eminent men of research should be brought from abroad on special rates of pay in the Indian educational service and they should be lent to the University for organising research work with the best of our students.

In a country like India where the contributions from public revenues on the heading of education are very low and limited and where the surplus income of the public is very small residential arrangements cannot be adequately made either from public revenues or public munificence. Hostel life is devoid of all religious, social and neighbourly instinct and is fraught with real dangers in case of political or commotional ferments. A college in the mofussil is residential for all practical purposes as professors and students live near enough and meet very often in the college hall or library or on the river ghat and maidan. Colleges should always be encouraged to grow in the mofussil in important villages and towns and they would rear up more healthy citizens with lifelike bouyancy than a purely air-tight residential arrangement.

An experiment on residential lines may be made at Dacca, provided reasonable facilities for admission are offered to the possible student population of Dacca and the entire town of Dacca be kept within its jurisdiction. In the near future universities of the affiliating type may be organised for every division, *viz.*, at Chittagong, Rajshahi, and Hoogly.

There should be no communal considerations in the University, no reserve college or accommodation in any college for any community, no reserve accommodation in the Senate for any. Government may only exercise its discretion in nomination by drawing in some of the best men for some special communities.

There should be no age restriction for females; their college course will extend over three years and will be much simpler than that for boys.

GILCHRIST, R. N.

I have tried in my answers to this question to give the principles on which the reorganisation of the Calcutta University should be based. It is impossible for me to work out details in my schemes because I have neither the time nor the materials by

GILCHRIST, R. N.—*cont.*

me for such a task. The principles which I advocate, will be clear from the answers I have given.

I recognise, however, that in outlining my scheme I have given only one among several possible schemes, and that the individual schemes are capable of modifications in various ways, all of which would be consistent with the basal principles. The three principles are :—

(*a*) The separation of existing Government institutions in Calcutta into a State Unversity.

(*b*) A Calcutta University of constituent colleges.

(*c*) A separate university for the colleges outside Calcutta.

The first of these, the State University, is fundamental to my whole position not only in this particular answer, but in all the questions set by the Commission. It is the golden thread running through the whole system. I have given my arguments for the existence of such a university; but that university may be organised in different ways. I have included the Civil Engineering College in the University, but the inclusion of it depends on the decision of the Commission on the questions raised in question 7. This is not a matter of principle, but of detail. The organisation of that University, with legislature, executive, etc., is a matter which may be satisfactorily worked out once the principle of a State university is accepted. The organisation of a special entrance examination, again, in this university (or in any college for that matter) is a matter for subsequent settlement. The foundation of a law college, too, depends on a decision on other questions. The organisation of a State university on existing materials presents no great difficulties; the difficulty is the acceptance of the principle, and for the principle I have given my arguments already.

One point, however, may be raised in this connection. The present organisation of Government in the Education Department, it may be said, could not cope with the new organisations I advocate. This is true; but, again, it is not a matter of principle, but of organisation. The Education Department must be reorganised to suit the new needs. Such a reorganisation is necessary even now. I expect that any provincial Director of Public Instruction would be the first to say that the removal of university work from his other duties would be very beneficial to him. It is impossible for one officer in the Education Department to be responsible for every branch of education; but it is not impossible to reorganise the Education Department to meet all needs efficiently.

Government, as the paymaster to the University, must have some say in the disposal of its funds, and in an independent university the independence could only be nominal; in fact, the old story of Government university disagreement would be repeated in an aggravated form. This aggravation would be the inevitable result of nominal independence on the one side and need for financial support on the other. And on the part of Government the grant of independence might mean delay in the reorganisation of the Education Department to meet university needs, this again making the struggle more acrid. Whatever happens, it seems to me that some reorganisation is necessary on the part of the Education Department.

The second principle I advocate—a constituent college university—may, again, be organised in different ways, consistent with the main principle. The need for finance may make this university pay a great deal of attention to intermediate work (or the new entrance work), the fees from which would be very helpful. The outlined organisation of legislature, etc., might also be altered, according to the number of colleges chosen as constituent colleges. These are matters of detail which can be settled only after analysis of the conditions of each college. The disposal of buildings, endowments, etc., is also a matter for subsequent settlement.

In the third portion of my scheme, that for the mofussil colleges, I have already admitted the alternative of a new body within the new Calcutta University, or a new University. The permutations possible in my outlined scheme are many. It may be held, by some, for example, that district colleges, not divisional colleges, should be chosen for concentration. Personally I do not think that district colleges should be chosen, far less sub-divisional colleges, but the main principle of separation is not affected thereby.

The idea of Bengal as a one-city province seems to me injurious from a political, as well as an educational, point of view. If local self-government is essential in a wider self-government it does not appear to me salutary to concentrate the resources of a province like Bengal in one city. The political argument from this point of view might be added to my educational arguments already given. Centrifugal forces should be encouraged for the good of the province as a whole.

GUPTA, J. N.

I.

The initial fact which should be kept in mind in estimating the value of the education which is being imparted through the medium of the Calcutta University and the educational institutions affiliated under it is that mere verbal instruction imparted in any educational institution is not the only, and hardly the most important, factor in building the intellectual and moral calibre of the young men who pass through that University. The political, moral, social, and economic condition of the country must necessarily leave their impression them and shape their intellectual and moral outlook. Other important facts to remember in any comparison of the value and efficiency of the educational institutions of Bengal with the educational institutions of Europe are the vast population of the country and the comparative poverty of the people. The exotic and foreign character of the tree of knowledge which has been planted in India must also be necessarily lacking in the strength and vigour of such spontaneous institutions which draw their sap from the inner life and national inspirations of the people. Lastly, it will be desirable in this connection to look into the past and the beginnings of the Calcutta University to ascertain whether there has not been a steady and systematic advance and also to compare its work with the record of other sister universities in India. I was myself a student in one of the Calcutta colleges and can vouch for the phenomenal advance both in the system of education and the appliances and equipments of colleges during the course of the last twenty-five years.

But I do not mean to imply that important changes are not called for. Without going into any great length of details or entering into any discussion of the principles involved, I may be permitted to enumerate some of the reforms which suggest themselves to me.

It is not possible for the Calcutta University to exercise any close control over the colleges outside Calcutta. I would like to see these colleges grouped into convenient centres with local educational boards responsible for some form of supervision and control over the colleges of the particular group. I would prefer this to the establishment of separate universities in different parts of Bengal. There is not sufficient love of learning and scholastic life outside Calcutta for the formation of separate universities. If we retain general control and guidance of higher collegiate education in the hands of a central body in Calcutta, with subordinate bodies controlling a number of institutions grouped geographically under them, the arrangement will be more conducive to the advancement of learning than the establishment of a number of independent universities at different centres in Bengal.

Practical suggestions for decentralisation would be :—

(*a*) To allow the subordinate local centres to select text-books—the standard to be attained being alone fixed by the central body.

(*b*) To allow them to supplement written examinations by *viva voce* and oral tests.

(*c*) To allow them to take account of the record of the work of the student in college in deciding his place in the examination list.

As regards the colleges in Calcutta itself and the recent developments in the direction of establishing a teaching university at Calcutta, I think the weight of argument is in favour of gradual advance being made on the lines already adopted than in creating a new university town in the suburbs of Calcutta. All possible sites outside the limits of Calcutta will be far more unhealthy and, on sanitary grounds, the only alternative will be to found such a colony in one of the hill stations of Bengal or in the uplands of Western

GUPTA, J. N.—*contd.*

Bengal. Financial considerations alone, however, are likely to prove an insuperable bar to our abandoning the work of a century in Calcutta and making a fresh start in another centre.

As regards executive control of education over all educational institutions in the province, the Calcutta University, the local Government, and the Imperial Government have, at present, definite powers and responsibilities. It is a question for consideration whether a central board of education representative of all these bodies will not be a more efficient instrument of control. I am inclined to think it will.

Having such a central controlling executive body, I think all recognised colleges should be made to conform to a prescribed standard with regard to:—

(i) The qualification and pay of teachers.
(ii) Equipment—library, laboratory, etc.
(iii) Buildings—playgrounds, etc.
(iv) Residential facility of students.

The Government colleges should be abolished and the Education Department, as far as the staffing of the Government colleges is concerned, should also be abolished. The Government colleges in the mofussil districts should be made over to the District Board. The Presidency College in Calcutta should be made over to the University. There should be one educational service for the whole province under the control of the Central Education Board, and all recognised educational institutions should be required to make appointments from the cadre of this service.

As regards (ii), (iii), and (iv), minimum requirements should be laid down by the Central Board to which all recognised institutions must conform. Inspectors appointed by the Board should be responsible for seeing that the orders and requirements of the Board are complied with.

It is universally recognised that the course of studies prescribed by the Calcutta University is too literary, and that the most urgent need of India being industrial progress and advancement, the course of studies should provide for industrial and commercial training. But it is generally felt that any scheme of industrial education will be of very little practical value without a simultaneous development of the industrial resources of the country. The Department of Education and the Department of Industry must work in close co-operation if industrial education is to be fruitful of results. But it is a question whether industrial education should form a part of university training, or whether it should have separate and independent organisation. There are stronger reasons for making industrial education independent of university and academic education than in the case of medicine or engineering. But if we have a central board of education, as suggested above, I think it might be feasible to have all the different educational schemes of the province brought under its control.

Agricultural education should receive greater importance. A separate note on the subject is being appended.

No scheme for improving the standards and methods of university education would be complete and effective without a simultaneous reform in school education at all the different stages—primary, secondary and higher. All educational institutions in the district should be made over to the control of district boards, and for each commissioner's division there should be a local board of education. If it be decided to give a more practical and industrial bias to university education the groundwork should be prepared in the earlier stages.

Finance is at the root of all the schemes for reforming education and educational institutions and, therefore, it is of the highest importance to give local bodies power to impose an education tax. It is doubtful whether the public should be placed under any liability for bearing any portion of the cost of university education. There is much force in the argument that those who wish to take advantage of higher university education must be able to afford the cost of such education.

The question how much of the higher university education should be comparatively cheap and within the reach of the middle class people of Bengal and what part of the university training should be made expensive is of great practical importance. I think the training necessary for qualifying for industrial pursuits, for professions like law, medicine, engineering, etc., and for Government appointments should be within

GUPTA, J. N.—*contd.*

reach of the middle classes. We may have, however, some residential colleges to which admission should be made more exclusive and the cost of education much higher than in other colleges.

In the special economic condition of Bengal and of India generally, it is obviously very important to have a recognised agricultural course included in the university curricula. It will be most desirable to raise agriculture to the dignity of other professions, and to provide suitable training for young men who might like to adopt agriculture as a profession.

As I have said in my note, reforms and changes in the system and standard of university education must be preceded by simultaneous changes in the education to be imparted in our schools. The question of agricultural education in rural schools has been discussed by me in my pamphlet *Rangpur To-day*.

II.

I would suggest the following classification of the educational institutions of the province:—

(*a*) Primary for primary and mass education.
(*b*) Secondary for secondary education.
(*c*) Technical and professional education.
(*d*) Higher university education.

The education to be imparted in secondary schools should, as far as possible, be completed in itself, and in order to make this possible the school-leaving age should be raised to eighteen from the present age-limit of sixteen and *ipso facto* the standard of the school-leaving test should be raised for the present up to the I. A. standard at least, if not higher. There will be two sides to the training in secondary schools, one more practical and scientific and the other more literary. As regards the technical and professional institutions and colleges, they may provide training in the following departments roughly:—

(i) Law.
(iii) Medicine.
(iii) Engineering.
(iv) Mining.
(v) Industry and commerce.
(vi) Agriculture.
(vii) Various Government departments.
(viii) Education department.

Students should go straight from the secondary schools to technical colleges. The students taking up a practical course in their school curricula may go to such technical institutions for such practical training as will be required for engineering, agriculture, etc. Those taking the literary course may go to such colleges as law, the higher university colleges, etc.

As regards the university colleges, they should be considered as seats of learning with high standards of education, where education will be more expensive than in any other colleges. They should be strictly limited in number, perhaps one or two in each division. Then a question may arise whether, if the avenues to all professions and callings are separated from the sphere of university education, there will be any large demand for such education in the present economic condition of the country and I think, therefore, that we may separate the paths, but need not definitely close the doors to these avenues through the university education.

Regarding the question of finance, I would suggest that for primary schools we should have local taxation and also State aid. For the secondary schools we should have the same source. As regards technical and university education, they should be conducted chiefly with State aid.

As regards the control over primary and secondary schools, I have suggested local educational boards and a central educati n board. Over the technical and scientific colleges we should have Government departmental control as also conrtol from the Central Board.

For university education, we will have to do with the present Calcutta University and with any assistance that may be necessary from the Central Board.

HUQ, The Hon'ble Maulvi A. K. FUZLUL.

There are four types of universities :—

(*a*) Teaching and residential.
(*b*) Teaching.
(*c*) Federal.
(*d*) Teaching-cum-federal.

The third represents the initial stage, the fourth the next step, the second the next, and the first represents the ideal and last stage of development.

The chief obstacle in the way of a pure type of teaching and residential university is the number of students which the University has ordinarily to deal with. The remedy obviously lies in a multiplication of universities. At present, we cannot have all the universities we require, but no time should be lost to start the Dacca University. This would simplify the problem of numbers which the Calcutta University has to face by about 50 per cent.

One suggestion is to have a pure type of teaching and residential university at Calcutta dealing only with Calcutta colleges and a pure type of the same kind at Dacca dealing only with Dacca colleges, the rest of colleges in the provinces to be handed over to a third university of the federal type situated at Calcutta (to be styled "The University of Bengal").

This suggestion is open to the criticism that the benefits of the pure type of residential and teaching university will be confined to Calcutta and Dacca students only; there will, therefore, be a keen scramble for seats in these universities, and I am afraid Muhammadan students will not be ordinarily able to win a fair number of seats. Even now, Muhammadan students cannot secure admission into colleges without the greatest difficulty. Moreover, mofussil students will be wholly deprived of the benefits of a teaching and residential university and for them a state of things will continue which has received almost universal condemnation.

Another suggestion is that both the Dacca and the Calcutta universities should be of the type which combines the teaching and residential systems with the federal. I consider this the better suggestion of the two. We have not yet reached a stage at which the federal type of university can be entirely dispensed with. Our new universities, for a long time to come, should be teaching and residential, combined with federal, that is to say, they should be teaching universities in respect of local colleges and federal universities in respect of colleges situated in neighbouring districts, and so can be easily controlled by the universities.

In such a university the student is taken up by the University at a stage of his career after the Matriculation; the earlier the better. Assuming that the schools affiliated to the University deal with the students up to the Matriculation and that the college takes up the students after matriculation the question arises as to where we are to put the line between school and college. Various suggestions have been put forward :—

(*a*) Extend the school course so as to include the two years' course in the college—in other words, make the present I. A. the entrance test.

(*b*) Let the Matriculation continue to be the entrance test and let the University be a federal one up to the I. A., controlling the teaching, but not taking up the work of actual teaching. In both the systems the University takes up the work of actual teaching after the I. A. The schools are bound to be too numerous to be controlled by the University. They will, therefore, have to be left as they are. The supervision and control of the University over the schools will not be as effective in the case of a school as of an affiliated college.

System (*a*) is inferior to system (*b*) in that the control of the University, for at least two years, is closer in system (*b*) than in system (*a*). We cannot entirely do away with the I. A. The matriculation certificate indicates a certain stage of development and the I. A. a higher one. The student may pass on at once to certain studies after matriculation, for instance, V. L. M. S., agricultural college, etc. After the I. A. he may pass on to mathematical engineering, etc.

University certificates may continue to be recognised as tests of fitness for posts in various branches of the public services. Otherwise, there will be the introduction of a system of pure and unrestricted competition for appointments which will be disastrous to Muhammadan and other interests.

If the University takes up the work of actual teaching after the I. A. the Calcutta University will be left with about 2,000 students and Dacca will begin with about 1,800. If the number increases, as it is bound to do, fresh universities should be established.

The following are the defects in the Dacca recommendations :—

(*a*) All colleges in Dacca, Chittagong, and parts of Rajshahi should be affiliated to Dacca.

(*b*) Dacca should have its own entrance test, its own matriculation, and I. A.

(*c*) As in Calcutta it should be federal up to the I. A. and thenceforward a pure type of a teaching and residential university.

(*d*) Vernacular should never be made a compulsory subject. Muhammadan boys have to study Bengali which is almost a foreign tongue. Those who have advocated the making of vernacular compulsory in Bengal have overlooked the special difficulties of Muhammadan students. Bengali has developed on lines which are not congenial to Muhammadan ideas. The reason is that ever since the introduction of British rule the development of Bengali has been under the guidance of the Hindu community and is, therefore, largely affected by the influence of Sanskrit. If, on the other hand, Bengali had developed under Muhammadan guidance, it would have been quite a different language from what it is at the present day and would have been largely parmeated by Persian and Arabic.

(*e*) Urdu should be recognised as second language.

I cannot too strongly emphasise the importance of having the very best men as head masters in our high schools. The headmaster should be of the type of man from which our professors are drawn. You cannot have a lasting superstructure unless the foundations are well and truly laid. This would also enable the district to reduce the number of inspecting officers.

MAHALANOBIS, PRASANTA CHANDRA.

A short *summary of the writer's general views* about the proper functions of the Calcutta University with regard to the educational needs of Bengal is given below, even though it necessarily repeats many everyday commonplaces of educational theory. (These introductory observations must be kept in view in considering the replies given.)

University education has its origin everywhere in the social necessity of training men for the higher professions. Later on the training of *citizens* is perceived to be one of the main businesses of a university. Along with these two, the ideal of the discovery of truth for its own sake forms an essential aspect of university education.

Thus we have :—

(*a*) The idea that the University "exist for the purpose of training men in those studies which lead not to a particular calling, but to a general view of the world and a comprehension of our duty to it. Its ideals are those of character and service, but it seeks to establish these ideals mainly by teaching the process of right thinking. It seeks to turn out citizens whose ability to think straight on moral, social, and political questions is, on the whole, higher than that of the man who lacks this training." [H. Pritchett : Carnegie Foundation Report, 1907, page 94.]

(*b*) *Professional training.*—"A university in a great centre of population must be prepared to provide advanced instruction of a specialised kind for all classes of the community who are willing to receive it." [London Commission : sec. 78, page 33.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

Professional training.—The rise of the modern English universities indicates this need. But it must be remembered that "no one stands more in need of this training of good citizenship than those who are to enter the professions of the lawyer, the physician, and the engineer".

Ideal of scholarly research for which training must be scientific, detached, and impartial, and even in professional training, knowledge should be pursued "for its own extension and always with reference to the attainment of truth".

Training in citizenship requires corporate social life. This is best seen in the English and American college system.

Professional training.—For this, curricula, examination and study regulations are necessary to safeguard the public against unqualified professional men.

In France the University has been dominated by this interest perhaps to the detriment of its other aspects.

Scholarly research is best fostered by freedom of study and the other characteristic development of the modern German university.

Such being the threefold aspect of the university, the findings of the London Commission are generally applicable to Bengal. We must have sufficient social activity in the form of residential colleges, hostels, clubs and fraternities, and living together of groups of students.

We must also have for efficiency in training study regulations, prescribed curricula, examinations, and finally for research we must provide personal guidance and freedom of study and of teaching and general academic freedom.

The London Commissioners postulate for efficient work a sound general education, requiring a well-organised secondary school system, and homogeneity of the class. For the development of social life a university quarter and hostels and societies are necessary. In order to secure academic freedom a strong professoriate with full control of teaching and examinations, and of finance must be secured.

Social structure in Bengal is essentially polymorphic. Society is not a mere collection of individuals, but is a real organic synthesis of a large number of varyingly differentiated social groups each enjoying a certain amount of autonomy consistent with its general position in the social organism. In educational matters society occupied the position of the modern state.

Students used to live together at the house of the professor, thus securing a degree of social life and personal guidance never attainable under modern conditions. Education was specific; priests, judges and law-givers, teachers, all received sound theoretical and practical training in their respective professions. Technical and industrial education were in the hands of the trade-guilds and caste-groups, ensuring highly specialised and efficient training through a well-organised system of apprenticeship. Education was thus wholly free, it being considered the duty of society to maintain all students. Students thus lived in close touch with society and the daily life of the people; they were obliged to help their teachers, who were most often also priests, in the performance of all domestic and public ceremonies. The teaching profession was highly respected and attracted the best minds of the period and every teacher of ability would go on with some independent work or other as a matter of course. Such was the generally accepted educational theory. In actual life this was realised with varying success.

The educational system was essentially *polymorphic*, there being no centralised control. No system of examination was ever necessary inasmuch as education, being the business of society, social recognition served to discriminate between all scholars. Degrees used to be conferred by the teacher, but in the appraising of the "benefaction" (*vidasa*) all scholars were definitely graded by the socio-educational tradition, most often on the relative success of new graduates at public "disputation" meetings.

Thus the salient features are a wholly *free*, highly *polymorphic*, multicentred, but more or less *integral* and *unified*, socio-traditional system of education with intimate personal guidance and *corporate life* in which training was essentially *specific*. There was *no centralised* examination system and *academic freedom* was complete; research and instruction were closely united and teaching was a highly respected profession.

English education was introduced by the British Government with the main purpose of training up a class of better educated officers, interpreters, and lawyers who would help

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

in running the administration more economically. The policy of showing preference in selecting Government officers for persons who had received an English education or had done well in examinations was more than once definitely formulated. But Government often felt some hesitation in providing for a better education than was actually needful in the class of inferior officers it wanted. [The official correspondence of the Principal, Medical College, in the late forties definitely shows this.] Later on, the idea of education for its own sake supplanted this bare utilitarian policy.

But with the advent of English education, instead of a social institution, education became a State affair. The individual as the subject of the State became the educational unit instead of the individual as a member of a socio-economic group. This inevitably led to *centralised rigid uniformity* Government became the supreme regulator in educational matters, and so in all the *learned* professions it became quite obligatory for every individual to obtain some insignia from the official system. The examination system inevitably followed. Gradually, as education became more and more *officialised*, the need for university education permeated practically all the other professions. Finally, as the old socio-economic hierarchies gradually passed away and a new intellectual aristocracy of the English educated sprang up, it became obligatory on all to have high English education in order to have recognition.

The existing system is a completely centralised bureaucratic *examining* organisation, under Government control, which is complete in the lower stages and quite effective in the University. Teaching has degenerated practically into a "cramming" for examination, and with elaborate and rigid study regulations, "percentages," and transfer rules, there is very little of "academic freedom".

There is very little of corporate life in university education as the whole system is out of intimate relationship with the real social and national life of the people. The development of hostels in Calcutta show an unfortunate, but marked, tendency towards the adoption of soldiers' barracks, police and coolie lines ideals.

Research and original investigation were almost completely unknown till very recently.

The most satisfactory aspect of the Calcutta University is its professional training for lawyers and physicians which, on the whole, is quite good. Training for Government service and for general clerical work, though indirect, is perhaps even now the main function of the University as it stands at present.

The leading motives in educational reconstruction in Bengal may now be summarised.

The Indian social type is highly *olympmorphic*, and no educational system can fully meet our requirements, which also is not multicentred and *poly-scholastic*. But the old socio-educational tradition having passed away, too early decentralisation would not be beneficial.

In the existing conditions of things retention of central systems of examination is inevitable. But the question of control requires very serious consideration. The Government of Bengal not being representative of the people there necessarily exists some divergence of purpose and function between the "State" and the general social life of the people. Complete State control would lead to a too uniform rigid bureaucratic machinery which may turn out efficient officers but would cease to have any real social and national importance. On the other hand, a complete decentralisation at this stage would lower the standard and lead to other serious and grave abuses, chiefly on account of the absence of sound educational traditions in the country. Thus some sort of central control is necessary, but it must not be too official in character, and it must provide and encourage a gradually developing plan of decentralisation. Speaking generally, the policy of gradual withdrawal from higher education on the part of Government, as recommended by the Commission in 1882, was fundamentally right, but its essential condition of success was the gradual development of a strong "non-official" central control. In order to advance towards the Indian ideal of a complete organic unity through the complex synthesis of highly differentiated, but integral constituent, groups, a centralised nucleus, with gradually developing peripheral autonomy, seems the only satisfactory plan to adopt at present.

In order to meet the special needs of Bengal it is necessary to provide a sufficient gradation in the different examinations, diplomas, and certificates in order to meet the requirements of the *heterogeneous* character of our society.

Local conditions being widely varying, our educational institutions must not be standardised on too uniform a plan and a considerable amount of local variation should be allowed.

The examination—instructional character of the existing system—has led to a very marked centralisation of all intellectual life in Calcutta with the consequent and almost complete impoverishment of the province. In order to attain a strong well-balanced national life a redistribution of educational and intellectual life has become urgently necessary.

In order to attain *academic freedom* a high respect for the teaching profession must be revived. In order to be real it requires close touch with local life.

Thus a federation of a growing number of strong, independent, well-developed local centres of learning, responding individually to local requirements, yet in its federal aspect meeting fully the national needs of the people is the only possible ideal for us. This is not immediately attainable, but the present reconstruction must always keep this ideal in view, yet not losing sight of the actual limitations inherent in the existing order of things.

A system of incorporations and connections which would allow the growth of local centres ultimately leading to this federation is necessary; conditions in Bengal are at present very favourable for this. In other countries a federation (like the Association of American universities) can only be established through the joining up of independently developed institutions which must necessarily mean, to some extent at least, a mechanical process of accretion, while in Bengal only a single university being in existence a more highly organic type of evolution by such internal development and gradual sub-division is possible. With such an organic evolution we shall get an increasing specialisation with growing co-operation at all stages of development.

There is another aspect of the educational problem in Bengal which demands attention. The University having become the only gateway to all the higher professions and also the touchstone of social status, demand for education is on the increase every day. Of course, the present growth of university attendance is a matter in which Bengal is sharing in a world-wide movement. Still adequate provision must be made to meet this growing demand. Development of local centres, at least up to the intermediate standard for the present, seems desirable. But, in order to make local education *real*, it must be allowed a growing degree of autonomy.

Then, again, the expensive character of university education has already become a serious problem. Here decentralisation is only a partial remedy. In the present undeveloped condition of Bengal the people must look to the State for adequate financial appropriation.

As the "State" has now replaced "society" in educational matters it must be clearly recognised that education, to a very great extent is the business of the State. And until a new socio-educational tradition is built up the chief share of the financial burden must be borne by Government.

Finally, just a word about the place of university education in our national life. In Bengal, while our mind is highly imaginative and our intellect peculiarly subtle, our actual social life is wholly circumscribed by conventional custom and completely fettered by artificial rules. This divorce of our actual life from the life of our ideas has made us a race of neurasthenics. In addition, it is destroying, our intellectual power. At present, we are too often content to merely imagine and almost never to really achieve. Our only hope lies in a true university education. It must awaken in us a real sense of independence in both thought and action. In the University at least there must not remain any trace of the divorce between theory and practice; we must not merely learn, we must also realise ourselves in the University. For us the University must be an abode of reality and for this academic freedom must be complete.

MAYNARD, The Hon'ble Mr. H. J.

I have no experience of Indian universities other than the Punjab and it may be that I am underrating evils and difficulties by reason of the narrowness of my experience.

MAYNARD, The Hon'ble Mr. H. J.—*contd.*—MILLIGAN, J. A.

But when I have felt disposed to be pessimistic about Indian universities in general, or about the Punjab University in particular, I have found two useful antidotes. One was the history of the mediæval European universities, which from time to time displayed defects and extravagances graver than anything which I find in this country to-day. The other is the description, taken from men who knew something of the working of the affiliation system sixteen to twenty years ago, of the majority of the Punjab colleges as they were then. Whatever there may be (and I dare say there is much) that is wrong in the colleges to-day, and however defective and incomplete the function which the University exercises in respect to them, there is a very striking improvement, dating, it would seem, from the present Universities' Act. Only in one respect (and that in certain colleges alone) is there perhaps any falling off; in the degree of attention which students obtained from teachers (or from the best and most devoted teachers) by reason of the larger proportion of teachers to students a generation ago.

These would be very bad reasons for slackness in the pursuit of reform. But they are good reasons for patience and caution in dealing with university questions. There is a further reason for caution. Despite the large proportion of nominated fellows, a university is largely an autonomous body. The Senate, and the educated and the articulate public outside the Senate, are very jealous on the subject of this autonomy. Political conditions make it increasingly difficult to *drive* a university; though it is still possible, in the Punjab at any rate, to lead it.

The history of the school final examination scheme in the Punjab shows what happens when the educated and articulate public takes alarm over a proposal of which it is suspicious. The very name becomes a sort of anathema. The very mention of it becomes a sort of trumpet-call to an organised opposition. People cease to analyse the plan, or to exercise reason over the consideration over it. I am reminded of what has happened in the United States of America by reason of George III.'s Stamp Act. It has become impossible—seemingly for ever—to raise a revenue in the United States by the equitable and convenient method of a stamp on documents.

There is a danger that too emphatic insistence upon the control of Government over the University, or upon the control of the University over the colleges, or upon the raising of standards (which are already going up steadily), or upon the limitation of the number of students, or upon the need of palliating the external examination by reference to the colleges or the teachers*, or upon the evils of the existing connection between the University and the external colleges, or upon the need of increased expenditure by colleges or by students, will place proposals of university reform in the category of things to which the public will not listen. These things can be attained—again, I would say, in the Punjab at any rate—gradually and peaceably, by the differentiation of students according to capacity, and by the encouragement of the centripetal forces, upon which I have laid stress above.

On one further point I should like to be permitted to lay emphasis. There is no sound reason for uniform legislature on the subject of universities for the whole of India. It is certain that, in this as in so many other respects, different provinces stand at widely separated points. What is good for one is not necessarily good for another. Moreover, very undesirable delay in the adjustment of machinery may be entailed by the need of amending an Imperial Act for the sake of a local requirement. For instance, the University of the Punjab is now held up in its arrangements for the creation of a full agricultural faculty, with power to elect syndics to the executive body, by conditions with which, primarily, another provincial university only is concerned. I suggest that each university should have its own statute.

MILLIGAN, J. A.

There should be only one university in Calcutta exercising the dual functions of an affiliating and a teaching university. The teaching side should be developed on a large scale; and degrees should be granted to candidates from approved colleges.

* The Indian parent and the Indian student are very suspicious of anything which looks like a discretionary authority. They fear abuses, caprices, and corrupt favour and influence.

I suggest that the B. A. degree be confined to students of the Calcutta University itself—after the development of its teaching side has been accomplished—while a new degree, say LL. B., be instituted for others who produce such certificates from approved colleges as may be deemed necessary. A similar duality might be carried through all the schools composing the University.

Simultaneously, a greater measure of autonomy might be conceded to affiliated colleges.

The separation of a "modern side" in high schools seems desirable, but competent teachers are lacking. In the suggested modifications of the intermediate course a suitable training for "modern side" teachers could be provided; and this new intermediate course might be so framed as to offer pupils from the "modern side" of high schools a curriculum of advanced studies fitting them for business life. It might culminate in the grant of a diploma which would be a valuable testimonial in the eyes of business men.

Missionaries, Anglican.

Conditions which we, the undersigned, believe are essential for the due maintenance of the status and individuality of a mission college attached to a teaching and autonomous university are :—

(*a*) The unity and corporate life of the college must be effectively safeguarded. In many cases this can best be secured by making the college predominantly residential.

(*b*) The internal discipline of the college must be entirely in the hands of the college authorities, and university arrangements must not be such as will render the maintenance of either its corporate life or discipline a matter of serious difficulty; *e.g.*, it has been suggested that one of the methods by which the unity of the college can be secured is by the daily assembling of the students. The timings of university lectures must not accordingly be such as to render this impossible.

(*c*) The direction of the students' studies must be in the hands of the college authorities; *e.g.*, it is they who will, subject to the general university regulations, determine what lectures, whether university or otherwise, each student will attend.

(*d*) Complete freedom in all matters of moral and religious instruction must be left to the college authorities.

(*e*) Should the administration of the University be vested in a general court, the principal and, possibly, a second representative of the college, should have places thereon. If further special executive functions are delegated to a smaller body some representative of the constituent colleges of the University elected by the principals of those colleges should be included among its members.

(f) Such share in University appointments shall be accorded to the members of the college staff as their qualifications entitle them to. This privilege shall be secured to them in common with other colleges by the right of appeal to some external authority independent of the University.

F. CHOTA NAGPUR.
S. K. RUDRA.
P. N. F. YOUNG.
GARFIELD WILLIAMS.
W. H. G. HOLMES.
T. E. T. SHORE.

MITTER, The Hon'ble Mr. PROVASH CHUNDER.

Before I take up the questions individually I should like to discuss very shortly the question of the functions and necessities of universities in a civilised society. To my mind the following three objects of training stand out prominently :—

(*a*) For master minds and persons of very high intellect knowledge and scholarship.

(*b*) For testing the knowledge of a large number of candidates on the basis of standardised examinations.

(*c*) For advance of higher vocational knowledge suitable to the needs of particular countries.

For these three types it may perhaps be permissible to cite the universities of Oxford, London, and Manchester as illustrations. Of course, the needs of England in these three respects may not be the same as those of Bengal. I would, therefore, confine my attention to the needs of Bengal with reference to the aforesaid three types.

As regards (*a*), I would like to point out that suitable men of this type would obviously be comparatively few and for the proper development of this type a few first-rate residential colleges with first-rate professors and a comparatively small number of students of high merit are necessary. An attempt to mould a large number of students who by their inclination and intellectual equipment are not suitable material for this type of development is likely to jeopardise the object in view. Such an attempt is likely to bring down the highest materials to a dead level of mediocrity, and as residential colleges are bound to be far more expensive, such an attempt will also prove a dead weight on financial grounds as well.

As to (*b*), regard being had to the comparative poverty of our student classes and to the keen and laudable desire of a large number of our youths to go in for university education, it is necessary to have standardised examinations in which a comparatively large number of students can appear. These students should be trained in various colleges which conform to certain standards laid down by the University. In laying down such standards the comparative poverty of our students and our community must always be kept in view. And, while, on the one hand, the standards should be such as to ensure the development of knowledge and intellect of our students to a reasonable degree, it must not be so high as to keep out a large number of keen and earnest students on the ground of too high a standard of intellectual attainment or financial requirement for the equipment of such colleges. The standard of equipment for these students should be ability to follow and appreciate intelligently the evolution of the world's thought and knowledge in all its aspects. Whereas the aim in view of type (*a*) should be to add to the world's knowledge, to initiate, and not merely to follow, the evolution of thought and knowledge, and to produce, if possible, master minds who, one may be permitted to hope, will leave their mark in the evolution of the world's thought and knowledge.

As to (*c*), it may be pointed out that this type is non-existent in the present University system so far as agriculture, commerce, and industries are concerned. As regards professional avocations it is absolutely inadequate so far as the requirements of medicine and engineering go. The University should confine itself to the theoretical and the higher practical side of vocational studies. I am also of opinion that the theoretical and the higher practical side of vocational training (and that is the legitimate sphere of the University) cannot grow satisfactorily unless arrangement is made simultaneously for a much larger growth of the more practical and the lower theoretical vocational training. To illustrate my proposition I say that if I recommend the starting of a college for higher mechanical and electrical engineering I would suggest that on or about the time when such college is started at least ten or twelve institutions should be started where students can learn on the theoretical side the results of scientific truth, and not the reasons therefor, and on the practical side how to produce finished articles by the application of the results of such truths. The function of the latter institution will be to turn out supervisors, skilled labourers, and artisans of superior type, and of the former teachers, investigators, and heads of departments. The institutions for lower and higher vocational training must co-exist and grow side by side. Upon the existence and the growth of the one depends the success of the other and *vice versâ*. It is also very necessary that the University should keep itself in close touch with, though it should have nothing to do with the actual control of the practical and lower theoretical training in different vocational studies. I shall explain fully my ideas about the position which the University should occupy with regard to these studies. Taking the study of medicine as an illustration, I may point out that our province requires about 1,500 to 2,000 medical graduates and, say, about 20,000 medical assistants passed out of medical schools. I would suggest that the control of the training of these medical assistants should be in the hands of a medical education board which should be closely associated with the University. I suggest

that the existing medical graduatees who pay a minimum registration fee should elect about half the members of the proposed Medical Education Board; the other half should be taken from the University as also from the experts appointed by Government.

The reasons for this suggested close connection between the University and the proposed board are these :—

(i) Those who obtain high vocational training through the University would naturally be the teachers of those who obtain lower vocational training through the Education Board, and it would be desirable to have a common link in the shape of a number of common members between the two bodies.

(ii) The higher vocationally trained men would be interpreters of western knowledge for the lower vocationally trained men who will accept the results of such knowledge in an intelligent way and who may not have the capacity or equipment to investigate into the reasons themselves.

(iii) The lower vocationally trained men who, it is expected, will spread themselves all over the province will, it is hoped, collect the data and materials for investigation and some of the higher vocationally trained men will, it is hoped, be able to carry on investigation on the special problems of the province on the basis of the data and materials so collected. For these and various other reasons it is very necessary that there should be a close connection between the two bodies and the success of one would depend much upon the success of the other.

My ideas about the co-relation of the higher with the lower vocational training apply equally to industrial, agricultural, and commercial engineering and technical education.

RAHIM, The Hon'ble Mr. Justice ABDUR.

Before answering the questions in their order, it is necessary that I should state what I understand to be the functions of an efficient modern university, the main difficulties underlying the system in vogue in India, and what are the essential needs of the situation which must be met in order that the reforms suggested by the questions might be successfully carried out. The present system has undoubtedly done valuable service in the past, but it is clear that for some time it has been out of touch with the requirements of modern life. Obviously, a system of university education, which results in the training that is given being dissociated from, or found inadequate to meet, the needs of life understood in a comprehensive sense, has to be discarded or so moulded as to enable it to serve its proper purpose. The scope of the Indian universities is extremely narrow, and it can hardly even be said that they pursue any conscious definite aim. An up-to-date university should press into its service all that there is in literatures, sciences and arts and in actual life, calculated to develope the student's power of thought and action, his ability to co-operate and to organise so that he may add to the intellectual, moral and material resources of his country and the world, and be a true leader of his people. University education can have little value if it does not succeed in liberating the student's mind and moral nature from the narrow traditions of the past and the harmful prejudices of his surroundings, and in fully developing in him the sense of social justice and responsibility, or if it does not instill in him the courage to live a full life and to enable those around him to live such a life. The aim of an Indian university should be to create an academic atmosphere in harmony with the above ideal. For the Indian student 'the dim shades of the cloisters' are not so much needed as the inspiration of the workshop and the factory; above all he should be made to realise, with the energy of faith, the teaching of science and experience that the miseries, sordidness and inefficiency that surround him are not inevitable, but are mainly the product of social mis-arrangements capable of being set right.

For such work we want not only professors of first-rate ability and of recognised standing in their particular branches for learning, but also tutors able not merely to guide the students in their studies, but willing to stimulate in them noble ambitions. The Indian universities are bodies devised mainly for conducting examinations, the colleges

alone being entrusted with the duty of teaching and training. But very few of the colleges could be said to be adequately staffed in the above sense. A transfer of responsibility from the colleges to the University and a re-moulding of the system of higher education cannot by itself achieve the desired result, unless proper means are in the first place devised for ensuring a supply of professors and tutors of the requisite calibre. The question was recently considered by the Public Services Commission and, as a member of that Commission, I have already made certain suggestions. I wish only to add that we must recognise that as a result of the war, it will be impossible for India to secure in sufficient numbers the desired class of teachers from England. But she should be prepared to spare for the benefit of India at least a few teachers of established reputation who have made important contributions to different branches of learning, and we on our part must be ready to offer such men every reasonable inducement to carry on their work here. We should also want some capable young educationists from England for tutorial work, but too much care cannot be taken in their selection. India must, however, be able to rely mainly on her own resources in this connection. But as Indian universities will doubtless require time to reach the standard of the older universities of England, it will be necessary for sometime yet to come to send a number of capable Indian students to England for a course of further training with a view to their employment in the Education Department. Then a considerable outlay of money must be faced by the Government and the public in providing and completing the necessary equipment of a modern university, *i.e.*, up-to-date laboratories, libraries, museums, etc. The fact must also be frankly recognised that there will be no sense of reality about any scheme of university education so long as the opportunities of civic life are not in harmony with it. We must proceed in the hope that such harmony will be established and that the labour of this Commission will be co-ordinated with the contemplated political and industrial reorganisation. The conditions of the times make it clear that it will be for the good not only of humanity but the British Empire itself that the talent and moral energy of the people of India should be fully developed and utilised in the future ordering of human life along more stable, comprehensive and harmonious lines.

Rajshahi Association, Rajshahi.

The Rajshahi College should be self-contained and arrangements should be made for the teaching of law and the M. A. in important subjects such as mathematics, history, philosophy, sanskrit, etc.

University education should include teaching in agriculture, sericulture, applied chemistry, commerce, etc., and with reference to local conditions arrangements should be made in important colleges for the teaching of one or more of these subjects. Taking into consideration the special resources of Rajshahi, special arrangements should be made in the Rajshahi College for the teaching of agriculture, sericulture and tinctorial chemistry. The industrial and sericultural schools of this town should be developed in the light of the above suggestion and made a part of the Rajshahi College.

The Governing Body of the college should be extended by the inclusion of representatives from the people. The Government should sanction, as nearly as possible an equal amount per head of students in all Government colleges irrespective of private donations and allow autonomy in the management of the college, the selection of professors and subjects of study and the expansion of the college. This is likely to promote the healthy growth of the college and create in the minds of the people a genuine desire to make munificent donations, facilitating the spread of education. For want of such autonomy the college has lost many promised rich donations. The scheme for the expansion of the college by the opening of the B. L. classes and M. A. classes in some subjects drawn up by the governing body could not therefore be given effect to and no remedy could be made for the deterioration of the teaching staff caused by the transfer of eminent professors and for the enhancement of fee rates

Rajshahi Association, Rajshahi—*contd.*—RAMAN, C. V.

without any corresponding benefit to the college and for the Government spending only a very small amount on the Rajshahi College in proportion to that spent on other colleges.

RAMAN, C. V.

For twelve years, I have been a keenly critical and disinterested observer of Indian educational progress, specially of scientific progress, and the conviction has gradually impressed itself upon me that the forces that make for progress in India find themselves up against an opposition which, though microscopic in numbers, is so insiduous and thoroughly organised that it is able at every turn to thwart and suppress Indian aspirations for advancement. I wish to put before the Commission the evidence which has led me to arrive at this conclusion, and to offer such suggestions as appear to me suitable to ensure the success of the factors which make for progress. The Commission will forgive me if my desire for the advancement of India in the scientific world leads me to be outspoken.

The essential condition for progress in the educational sphere is, that there should be an honest attempt to make the best of the educational material that offers itself for training, to stimulate the intellect of the country to do its best in the respective spheres for which it is most fitted, and to offer every possible encouragement to those who give indication of special abilities. This attitude of helpful sympathy should, it is necessary, begin at the very bottom of the educational ladder, to enable the aspirant for intellectual advancement to ascend, rung by rung, as far as he can. Not infrequently we find that talent and genius manifest themselves not early in age, but only at a later stage, when their possessor comes into an atmosphere to which he finds himself attuned and meets with ideas which set on fire his latent activities. All this may seem very obvious to the educationist, but in practice we find in India a precisely contrary policy urged, supported, and even carried into action by those in power. We find exponents of the policy of suppression both in and outside the Calcutta University, but they are most free to work their will in centres of reaction such as the Madras University, of which I have personal knowledge. For years past, we find in some of the Indian universities, particularly Madras, Allahabad, and formerly even at Calcutta, a deliberate policy has been pursued of stifling educational advancement by imposing artificial standards of examination at every stage, repressing the expansion of latent abilities, refusing permission to candidates to take up honours courses, withholding facilities for research, and by keeping research scholarships unawarded. The evidence for this statement is indubitable, but it is only with great reluctance and in view of the necessity of putting the Commission in possession of all the facts that I bring them to notice.

Year after year, in some of the Indian universities above mentioned, we have the repetition of the scandalous sight of a huge percentage of failures in the University examinations. This is only one symptom and the external manifestation of the reactionary forces that I have mentioned. I have no hesitation in saying that if the percentage of passes and failures in the university examinations at Madras were exactly reversed, we would have a truer representation of the intellectual calibre of the students of the Madras University. Numerous instances are within my personal knowledge in which candidates of real ability, who would in any of the world's universities have obtained high distinctions, have been most unjustifiably ploughed, and have been driven to mental despair even to the point of suicide. It will not surprise the Commission to be told that S. Ramanujam, whom an English Journal of Science has hailed as " a star of the first magnitude in the mathematical firmament," appeared at the intermediate examination of the Madras University more than once and failed to get through. This was not a case of mere eccentricity of genius. Hundreds of cases can be cited in which candidates of real ability have been shut out from the universities by most arbitrary and unsympathetic standards of examination, whose only object seems to have been to keep out the fit equally with the unfit. We find the same tale repeated when we come to consider the treatment that the pupils receive inside the portals of the University. The keynote of education is sympathy ; without it, the ablest teacher can only prove a miserable failure. In the adminis-

tration of our colleges and universities, we find the very reverse of sympathy put into practice. The breaking of the spirit of the ambitious student who wishes to take up an honours course, but is refused permission, or worse still is allowed in and then kicked out after summary trial, is an event of regular occurrence in the Madras University. It is easier for a camel to pass through the eye of a needle than for a science student in Madras to get into the honours course. His treatment after he secures his degree is even worse. Scholarships in the University are asked for only to be refused. I know of two instances where candidates with high distinction in physics and anxious to undertake research were refused assistance.

I have brought all this to notice because I believe that the policy which actuates the men who are responsible for these things is seriously detrimental to the real efficiency of our universities, and that there is a real danger that false standards may be set up which would succeed in giving a set back to progress in the one University in India that can claim to raise its head as a real centre of learning, I mean, the Calcutta University. In my memorandum on the Calcutta School of Physics I have shown that in my own subject, we have now in the Calcutta University an organisation of the highest type which has spread its activity over the different branches of physics, and is making its influence felt in the progress of the science. It is unnecessary for me to repeat here the facts and figures that are already set out in that memorandum. I wish only to bring to the notice of the Commission certain further references that prove that the Calcutta School of Physics is a real and growing force in the scientific world. In the Physical Review for November 1917, which has just come to hand, will be found a paper by two American physicists in which they find occasion to refer five times to the work of a physicist of the Calcutta School. This is only the latest of a long list of instances of recognition that our work has met with abroad. On page 292 of *Nature* of the 13th December, 1917, which has just come to hand, will be found an editorial article on "Science in India" which deals with the work of the Indian Association for the Cultivation of Science, and makes a complimentary reference to the work of two physicists of the Calcutta School. On page 284 of the same issue, will be found published a long communication by another member of the same school, in which he has criticised Dr. L. Silberstein who is a physicist of international reputation. The Philosophical Magazine for January 1918 which is a double number and of which about one third consists of papers contributed by Calcutta physicists is a significant reminder of their work. A well-known Englishman who is a fellow of the Royal Society of London, writes to me in a letter referring to the organisation of which I am the head, "I do not know of any school which has the energy and ability of that at Calcutta." I say all this not in a spirit of self-gratulation but in order to prove that the ideals on which the Calcutta University has worked for the past ten years have shown their true worth. As I mentioned in my address at the Science Association last November, a tree is known by its fruit; a university that produces the solid fruit of research has furnished the best proof that it is a sound tree and a good one. The tree that does not bear fruits should be cut down and burnt. There is no university in India that can point towards such a distinguished record as the Calcutta University and the reason for this is to be found in the fact that other universities are run on fundamentally wrong lines, as already indicated. If the energies and aspirations of the alumni are stifled at the very outset by wholesale slaughters in the examinations and by repression in the later stages, how is an output of research to become possible? In other universities, we find teachers, some of whom perhaps are not without ability, but who are not particularly anxious to see their students excel them, and find it easy to supply the necessary discouragement. The general level of ability of the men occupying positions in the Indian educational service is very low. Even in the isolated cases, of recent years, where men in the service have done research, their output is of negligible importance, and the few papers published by them in my subject have been nearly always ignored by the physical bibliographies. Others there are whose sole claim to distinction is the ability to set question papers which they would be unable to answer themselves, and it is men of this type who wish to be the institutors of a pretended standard of efficiency. Real intellectual efficiency both in educational work and outside it, lies not in the ability to set impossible question papers, nor even to answer them within impossible limits of time

RAMAN, C. V.—*contd.*

but in originality, the capacity to fire others with enthusiasm and energy, to communicate that zeal for truth and knowledge, which is the essence of university education. A single original thought is worth much more than the ability to set or answer hundreds of examination papers. And the Calcutta University has shown by the successful development of several schools of research in various subjects in the past few years, that it is head and shoulders above the other Indian universities in its methods and ideals.

So far I have reviewed the existing position in general terms. I now proceed to specific suggestions. India's greatest need to-day is that education should both rise and spread; the two processes are interdependent and cannot be divorced from each other. Success can only be achieved if the policy of uplift is adopted as opposed to the policy of repression that unfortunately for India is now in full swing almost everywhere. I respectfully submit that the greatest service that the Calcutta University Commission can render to the cause of Indian education is to express itself emphatically on this point. There are Indians in India who are willing and able to shoulder the great burden of raising the intellectual level of their own countrymen. And it is they alone, with their intimate knowledge of the psychology of the Indian mind, that successfully undertake this great task. If India is to make herself felt in the intellectual world, it is necessary that every one of her sons should find it possible to rise to the full height of endeavour for which his abilities fit him and this is only possible if in the lower stages a helping hand is freely extended to every one who wishes to rise higher. The control of admission to the universities should rest solely with the universities themselves, and the control of the universities should vest entirely in the hands of Indian teachers, Indian professionals, and Indian business men.

In my replies to the interrogatory issued by the University Commission, I have pointed out that Indians have been far more successful than anyone else in creating schools of research in their own country. This leads me on to remark that a *most* urgent need for educational progress is that the work of higher university teaching in India should be entrusted mainly, if not entirely, to Indian teachers. If the Calcutta University Commission does not express itself clearly on this point, I respectfully venture to think that its labours will have been in vain. We have had sixty years experience of a different policy, and that experience has demonstrated the egregious absurdity of expecting any wide development of research work, unless higher teaching is turned over to Indian hands. Japan, after a short preliminary period of training, turned over the work of carrying on her universities to her own sons, and in this we see the reason for the strong position that Japan occupies in the scientific world to-day. India would eclipse not merely Japan but most of the European countries as well in research, if only the sons of her soil had fair play. I express this as an opinion formed on mature and deliberate consideration. We cannot possibly expect Indian students to do their best, unless they find their own countrymen above them succeeding in research and rising in the estimation of the intellectual world. From this point of view, I have no hesitation in saying that one Indian teacher successful in research is worth more to India than a hundred outsiders, good, bad, or indifferent.

I wish to bring to notice the urgent need of the University College of Science for a liberal money grant to enable us to provide the building of residential accommodation for the chief professors and assistants, the addition of the laboratory and library equipment, which is urgently required, increasing the pay of deserving assistant professors and teachers, and additional research scholarships.

II.

I wish to emphasise the view expressed by me that £800 per annum or Rs. 1,000 per month, together with residential accommodation wherever possible, would be sufficient for any person with academical habits and disposition to live comfortably at Calcutta. These are the emoluments attached to most of the professorships at Calcutta paid from the University chest, some of which are held by Indians who have succeeded in securing an international reputation by their original work. It is unnecessary in the present conditions to offer more, even if a poor country like India with its teeming millions of population sunk in poverty and wretchedness could afford to do so, which I respectfully venture to think is *not* the case. I would very strongly deprecate any attempt

to create chairs on specially high rates of pay intended to be held by men who are not Indians. If any attempt were made in this direction, it would be the surest way to convert the Calcutta University from a centre of beneficent academic activity into an arena for violent political animosities; such invidious distinction would, I respectfully submit, be entirely opposed to the true academic spirit which puts all men on a level determined solely by their academic merit. I wish also to emphasise the view expressed by me that appointments to new chairs created in the University should rest in the hands of the teachers and others already in the University, and *not of Government.* Contact with eminent foreign men of science, which is undoubtedly desirable in the interests of academic efficiency, would be best secured in the way in which it is secured in other countries of the world, that is, by inviting distinguished men of science to come over for short periods to deliver courses of lectures and to mix with us freely, and also, if foreign universities will agree to it, by exchanging professors for one or more academic terms.

I wish to amplify my views regarding political activity in the universities. A university constituted on sound academic lines and in which men find the strength of their position directly proportional to their academic merit would be incapable of any activity deleterious to the best interests of the country. It is impossible to separate university training in particular branches of knowledge from the broad training for citizenship of the country and the Empire which every university should impart. I venture to express my complete confidence in the future of Indian universities, provided Indians find that in their own country they meet with fair play and do not find any door to honourable employment barred against them.

I would very respectfully request that the Calcutta University Commission take serious notice of the conditions existing in other Indian universities as compared with those in British and foreign universities in regard to the following matters: —

(*a*) The proportion of men who after being two years in the University are turned out on the allegation that they are unfit to continue further progress.

(*b*) The proportion of men who are permitted to take up honours courses as distinguished from an ordinary pass course.

(*c*) The proportion of men who, as the result of the university examinations, are arranged in the first, second and third classes or plucked for their degrees.

(*d*) The proportion of men who, after entering the University, are allowed to proceed to research work.

It will be found that in all these respects the Calcutta University stands far ahead of the other Indian universities, and that the facts as regards the other Indian universities seriously suggest that the management in some of these universities is in deliberate opposition to Indian aspirations for advancement.

Rammohun Library Conference.

Note on the reorganisation of Calcutta University.

It is but natural that any discussion on the modern system of education in Bengal should begin with a reference to Raja Rammohun Roy's famous letter to Lord Amherst, advocating the introduction of English education. Lord William Bentinck by accepting the proposal gave a great impetus to English education in this country. In the working out of the principle, however, the Government officials were more alive to their own requirements for purposes of administration than to those of the people. This led, during the pre-university period, to turning out in the main clerks and subordinate officials. It must be admitted, however, that the Bentinck circular was attended with satisfactory results in the liberalising of thought and culture among those who imbibed the spirit of western education. Then came the University in 1858 with "The advancement of learning" as its ideal. It was indeed a step further in the development of education on western lines. The subsequent modifications of the Act of 1858 did not materially effect the ideal. We have every reason to be grateful for

Rammohun Library Conference—*contd.*

the benefits derived from university education. The contact with the noble thoughts crystalised in the western literature has had its beneficial effects upon the Indian mind, and the knowledge of the physical sciences has been to the best interests of the intellectual if not the material advancement of our people. The University has given us some of our most able leaders of thought in various fields of life, particularly, education, law, and medicine.

Unfortunately, however, the present system is not free from defects of a serious nature. The most glaring of these defects are mentioned below :—

(*a*) The entire trend of the present system has been in the direction of prominence on the literary side, to the neglect of the other and equally important aspects of education. This is due largely to the one sided ideal which the Calcutta University has placed before itself. The advancement of learning is, of course, the most important function of the University ; but it has to be remembered that in every country it is only the few who pursue knowledge for knowledge's sake.

(*b*) The existing system of university education does not as a rule, help to develope in graduates the power of independent thinking to the extent that is desired. The ideal of the University has made it inattentive to the industrial and commercial needs of the country.

(*c*) The entire scheme of education—primary, secondary, higher, industrial, and technical—as imparted in Bengal by the University, the Education Department and other bodies is hardly sufficient to meet the requirements of the country. It does not even provide the various departments of the Government, the municipalities, district boards and other public bodies with all the kinds of officers and men required for the public services. It is scarcely necessary to refer to the absence of any provision for supplying railway and other workshops, factories, and business houses with their managers, experts and foremen.

(*d*) Moral training and physical education do not at present find any place in the existing system.

(*e*) When we think of the remedy to these defects we are forcibly reminded of the peculiar circumstances which prevail in this country. The very first difficulty in the way of finding a solution is the fact that the Government officials do not, and cannot, fully represent the views and interests of the entire community ; they are British in spirit and are more or less guided by the interests of the ruling race. This brings us to the question of a rational scheme of control in matters educational. The entire control of education in every stage—elementary, secondary and higher—and of every description—general, technical, and commercial—should be placed under one body, mainly composed of persons conversant with educational needs and ideals and representing the various interests of the country. The inspection of schools and colleges, the formulation of curricula, the enforcement of rules and regulations and the allocation of funds should be made by this body. This may be the University itself, re-organised to suit the expanded scope of its duties and responsibilities. This body should be freed from interference by the Government departments, and the entire State expenditure on education should be placed under its control on the usual conditions of proper accounts and audit.

In advocating this form of control we are reminded of the remarkable speech delivered by His Excellency Lord Chelmsford at the opening of the Simla conference of Directors of Public Instruction held last August. His Lordship emphatically asserted that the educational policy of the Government should be based entirely on educational—and not political—considerations.

(*f*) The true functions of a university are indicated in the Report of the London University Commission which says " The University fulfils its end for the nation and the world partly by the advancement of learning, but partly also by sending out into many of the different paths of life a constant stream of men and women who have been trained by its teaching and influenced by its life." The best endeavour should be made to provide the

Rammohun Library Conference—*contd.*

highest training within the borders of the country and to promote independent thinking and research work in the various branches of knowledge.

The creation of the proper atmosphere in the centres of education is a factor that should be kept in view in organising education in all its grades. Situated as we are, university education is a necessity to us, and not a luxury. And as the university stamp in the form of certificates, diplomas, and degrees is the only passport to service under the Government as well as other bodies, every precaution should be taken to extend the scope and field of university education and make it accessible to all classes of people, rich and poor, high and low. The moral and physical sides ought not to be neglected in any way, but proper arrangement should be made for the moral training and physical education of our young men.

(*g*) As a necessary consequence all branches of knowledge, pure and applied, should be taught under the auspices of the University and should at every stage be controlled by the University through properly organised committees or councils. Agriculture, manufactures, industries, chemistry, civil, mechanical and electrical engineering, and commercial training should be included in the curriculum of the University, with the proviso that the applied portion of every science should be based on an adequate knowledge of the pure side. The courses of studies for general education from the elementary to the highest stage, and technological instruction in all its grades should be prescribed by the University.

(*h*) The University being a body of experts, all examinations in addition to those for university certificates, diplomas and degrees, such as those for posts under the Government, municipalities, district boards, should be conducted by the University. In particular, we would strongly oppose the institution of a school final examination under the control of a Government department. The rigidity of the system of examinations ought to be modified. The range of studies for the matriculation and intermediate examinations ought to be wide so as to ensure the possession by every student of an elementary knowledge of some of the most important subjects, but every student should not be compelled to pass in all the subjects in order to be declared successful. Failure in one or two subjects in any examination should not prevent a student from going up for higher studies in subjects in which he has shown proficiency so as to get certificates in these subjects only. This will prevent the serious wastage of the intellectual resources of the country and open careers to many young men who otherwise would swell the ranks of the useless and discontented members of society.

(*i*) The teaching profession is perhaps the worst in this country in the matter of pay and prospects. An earnest effort should be made to improve the status of the teachers and place them above want. The ancient ideal of bestowing the boon of education is of the highest spiritual value, and it was made possible because of the state supplying the wordly needs of the teachers. In these days of hard struggle for existence it would be doing teachers a very great injustice if they of all people were requested to take the vow of poverty. The very necessity of training themselves and keeping themselves abreast of the times presupposes the provision of life above wants which should under all circumstances be assured to them.

(*j*) The home being naturally the best place for the training of children, it should serve as the ideal in providing for the residence of students. The hostel system is unnatural, and where it cannot be avoided the evil effects should be minimised by reducing the number of inmates and sweetening the relations between the superintendent and the students.

(*k*) (i) The intellectual and financial resources of Calcutta and of the province of Bengal ought to be properly organised for helping the diffusion of knowledge. The following methods may be useful in this connection. :—

(A) All college libraries should have inter-collegiate exchange of standard books in all subjects.

(B) There should be a central library for old and rare books open to students and teachers for reference and research.

(ii) A proper system of co-ordination should be introduced into the working of such institutions as the Museum, the Botanical Gardens, the Zoological Gardens, the laboratories and libraries so that they may be available to teachers and students alike.

(iii) Popular university extension lectures should be largely arranged in which the medium should, so far as possible, be the vernacular.

SAHAY, Rai Bahadur BHAGVATI.

I would recommend a network of universities; a university for each tract of country that differs socially, economically, morally and intellectually from another. A central university which caters for the social, moral, economic and intellectual needs of a miscellaneous people cannot be a success, for there is a clash of ideals which is the very negation of an ideal.

SATIAR, RADHIKA LAL.

English education in this country has of late become rather expensive for the middle class people who form the bulk of the population. How to impart efficient education with the least possible expenditure would be a problem for the consideration of the Commission.

Multitudes of similar books of mediocre merit should not be recommended instead of standard works which serve the purpose better, at the same time not much taxing the over-taxed purse of the poor parents and guardians of the students. In a country where plain living and high thinking is the ideal palatial buildings with up-to-date modern comforts are hardly necessary for accommodating students.

SHARP, The Hon'ble Mr. H.

In order that I may make clear the constructive suggestions embodied in the replies to these questions, it is necessary that I attempt, at the risk of some repetition, some preliminary remarks as to the existing state of affairs, its defects and the remedies which may be applied. This general note is intended to connect together the replies given to the questions. It contains the suggestion of a scheme of reorganisation in outline, which renders easier the task of co-ordinating the detailed suggestions given under the questions.

When affiliating universities were incorporated in India, the new bodies in Calcutta, Bombay and Madras were called upon to deal with a manageable number of institutions. The University of Calcutta began with ten arts colleges. By 1896 that university had 97 affiliated colleges. At present it has, I believe, 55, the reduction being due to the operation of the Act of 1904 and the recent creation of the Patna University. These colleges vary from one another in respect of management, staff, tone, financial condition and method of instruction. The control exercised over them by the University is necessarily weak. The Act of 1904 sought to make it stronger; its success was only partial. The central body is vested with far-reaching powers in respect of affiliation, curricula and examination. But the effectiveness of these powers is limited by the impossibility of dealing adequately with so large a number of colleges, so diversely located and so unequal in their educative value. Furthermore, this central body is not representative of any single institution or of any homogeneous body of teachers. Nor in theory is it representative of any particular locality, since it is provincial and even extra-provincial. In practice, it is largely representative of Calcutta—the Syndicate indeed must consist of members ordinarily resident in or near Calcutta.

SHARP, The Hon'ble Mr. H.—*contd.*

The main defects inherent in the present system are the following :—

(*a*) It is difficult for the central body to secure that proper standards are maintained not merely in teaching, but in such matters as the residence of students, etc., in a host of colleges regarding any one of which its members as a whole cannot possess any special knowledge or interest.

(*b*) The standard of examination is set by the weaker institutions, since it is difficult for the central body to resist the demands that a reasonable percentage of all candidates shall succeed and the disappointment and outcry which are produced by any so-called 'slaughter of the innocents.'

(*c*) The spirit of emulation and the desire for self-improvement are thus deadened among many of the colleges, since it does not pay to employ an expensive staff or invest in costly equipment, when a rival institution can manage with much less and possesses equal privileges of presenting its students at examination, and, under an external system of tests, a fairly equal chance of passing them.

(*d*) Competition thus becomes unwholesome. It is true that a well-educated Bengali will prefer to send his son to a good college, and hence there is great competition for admission to places like the Presidency College. But many students lack guidance and look out for the place where fees are low, attendance feebly enforced and discipline lax. Moreover, the demand is greater than can be met in the better-found colleges. This being so, large and cheaply run institutions, sometimes of the proprietary type, have sprung up for the reception of the growing body of students and it is difficult for the central body to refuse its recognition of them.

(*e*) The central body itself is free from competition. The universities of India have hitherto been only five, each exercising jurisdiction over a fraction of the million square miles which comprise British territory, to say nothing of Native States. Recently two other universities have been incorporated in British India and one in a Native State. This will make no difference. Bodies so widely separated can exercise little or no influence on each other. Nor is there any other kind of effective control. The Acts have provided safe-guards, and regulations are subject to Government sanction. But powers are seldom exercised, and regulations of themselves cannot produce a standard or a tradition. Public opinion exercises considerable pressure; but it is pressure in the direction of wholesale provision of facilities, easy conditions and lighter tests. The parent often regards education as a selective process and university courses and examinations in the light of a succession of hurdles which students are required, for no particular reason, to negotiate in the race for employment.

(*f*) The affiliating system, especially when organised on a large scale, encourages prescriptions tending to uniformity and discourages originality of teaching and study.

(*g*) Thus the affiliated colleges, though varying greatly in value, are driven towards a groove and tend to subside into a monotonous mediocrity. Some indeed continue much better than others. But it is a struggle to do so, and they receive little encouragement.

(*h*) Effective examination is impossible. Not merely are the physical difficulties great, resulting this year in a reiterated break-down of the Matriculation; but a purely external test on such a scale is invalid for selection and destructive of good educational methods.

(*i*) Finally, the mass of work thrust upon the University bodies, especially with the addition of school recognition, is too great.

These remarks are not intended to imply that the affiliating university has failed in its purpose in India. Though possibly another and a better system might have been devised, that which was adopted was singularly fitted to the conditions of this country and has done its work with a considerable measure of success. Any system has its defects. These defects become exaggerated in changed circumstances. In Bengal, circumstances have now changed; numbers have increased; the organisation has become unwieldy; intellectual development requires a finer mechanism.

In considering what remedy can be applied, we have to consider the actual condition of affairs with which we are faced, the paucity of funds, the undesirability of sudden dislocation and the necessity of securing an organisation which will not prove a mere palliative. The chief conditioning fact is the large number of colleges. Some have maintained that these can be reduced to the status of

SHARP, The Hon'ble Mr. H.—*contd.*

schools. I regard this as out of the question. Existing institutions cannot thus summarily be dealt with. Certain of the colleges should perhaps be so reduced; but public opinion and the educational needs of the community necessitate the retention of a large number of these colleges to cater for local needs.

The expenditure on secondary and collegiate education is already disproportionately large when compared with that on primary education. The fact is, not that the former is excessive, but that the latter is inadequate. Public funds contribute £1·34 million towards primary schools, £0·81 million towards secondary and collegiate institutions (the figures are for all-India). Obviously primary education has a prior claim on future assignments from Imperial and local resources. Higher education will have to depend for its improvement largely upon benefactions and fees. The amount which can be raised from these sources is limited. Any scheme framed should have regard to these facts. For, though more liberal support is essential to reform, organisation must be such as will husband resources.

The other two conditions require no explanatory remarks.

The alternative remedies appear to be—

(i) The introduction of modifications in the present system.
(ii) The adoption of a federal system, under which many university centres would be created associated with a few neighbouring colleges.
(iii) The gradual introduction of an entirely new type.

Course (*i*) would be only a palliative. It was pursued in the legislation of 1904, which may be described as a useful piece of tinkering. It is being pursued again in the Patna scheme; and, save that the number of colleges concerned is manageable, that scheme does not promise any marked measure of reform. As to (*ii*), the federal system was abandoned in England after a comparatively brief trial; it could not be effectively introduced into Bengal, by reason of the large number of isolated colleges and the paucity of centres suitable as seats of such universities. Hence the system, if introduced, would quickly revert to the affiliating type, with this difference, that, instead of one university, we should have a series of such bodies, most of them lacking in the material and the stimulus requisite for the reform of the ancillary institutions. Course (*iii*) appears to be the only one which promises real reform and, if carried out in the way suggested below, will involve in itself no large extra cost (indeed, will result in considerable economy of teaching energy) and will cause no more dislocation than (*i*) and certainly much less than (*ii*).

Such a scheme might be worked out by the creation of three principal organisations —the affiliating university, local universities and a standardising body. These are dealt with in turn below.

It is essential that the mofussil colleges and the affiliating organisation should be retained. Objections may be raised that to do so is to perpetuate a system which is now regarded by many as obsolete. But suddenly to abolish the affiliating system would do great violence to public feeling and, in view of the number of students to be dealt with and the area to be covered, would be out of the question. As will presently be shown, the affiliating university will exist side by side with a series of local universities. It is impossible at present to prophesy into what shape the affiliating university may ultimately transform itself. It will suffice for the present if a bold and definite step is taken in the direction of reform. The step which is here proposed is the formation (described in the next paragraph) of local universities, having no formal relation with the affiliating organisation. The difficulties inherent in a dual system of this kind are obvious and must be faced; but they are probably less than the certain disadvantages involved either in the present system or in any scheme which will confuse the idea of the local university with the external examining body; and they may be minimised by the expedients presently to be described.

Entirely independent local universities should be formed from time to time at promising centres, such as Calcutta, Dacca, Chittagong, Rajshahi and (let us say) Berhampur. It is not pretended that each one of these places is as yet fit to become a university centre. A beginning may be made at once with Calcutta and Dacca; others may follow in due course, as circumstances justify. We must be content with modest beginnings. The Dacca scheme hung fire largely because of the heavy initial expenditure involved. The principal thing to look to is the existence, at a single centre, of capable professors in sufficient number. In the first instance small additions to existing buildings and staff must be regarded as sufficient. Things will then grow; and it is better that they should grow from small beginnings. Other aspects of this subject are dealt with under question 4.

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In pursuance of the views put forward under questions 5 and 15, it is suggested that Government should institute examinations for higher posts in the public service. So far as possible, the High Court and the medical faculties, possibly also local bodies, should be induced to make use of the same tests. By this means two ends will be gained—examinations for employment will be dissociated from examinations of a purely university character and a standardising mechanism will be instituted for appraising the value of the different universities and counteracting any undesirable tendency to develop highly unequal standards of examination. A subsidiary advantage of this plan is that it will provide a species of external control which can be exercised with the minimum of friction, because the mere result of the test will react upon inferior institutions and will largely absolve Government from the necessity of taking direct action in cases of default in any university. The much-needed element of competition will be introduced into the university system; and that competition will be kept on wholesome lines by the existence of an external standardising agency.

Having briefly described the three organisations which appear to be necessary, I now proceed to elaborate the conditions which must characterise each of them in order that they may attain success.

It will be convenient to consider first the conditions essential to the success of the *local universities.*

(A) They must be purely teaching universities. Any other arrangement would confuse the idea of the teaching university, dissipate the energies of the teaching staff and the governing bodies and detract from the sense of unity and *esprit de corps.* If any comprise is permitted, even as a temporary measure, in the direction of affiliating or federating powers, it will inevitably become perpetuated and reversion will take place to the existing system.

(B) They must be unitary. This, however, need not preclude the existence in them of several constituent colleges, provided that the 'bulk of the' teaching is regarded as a university concern, and the separate colleges as social, residential and to some extent tutorial entities closely bound together in a single body. The existing circumstances at Dacca, for instance, appear to make the maintenance of such colleges desirable there. The uni-collegiate system, however, presents less difficulties and should be tried at other centres.

(C) Whenever such colleges co-exist, as part of a unitary university, they must be strictly contiguous. For a student will have to go to central buildings or to class rooms existent in different colleges for instruction. Contiguity will also foster community of life. Exceptions may be permitted, within reason, in the case of technological workshops, agricultural farms, etc., if it is decided that the instruction imparted in such institutions should find a place in these universities.

(D) They should be strictly residential as regards the professors and mainly so as regards the students. But residence with parents, close relatives or responsibile guardians may be permitted. The Vice-Chancellor or the principals should have full discretion as to the suitability of relatives and guardians.

(E) They should, as far as possible, be self-governing. Their academic affairs should be conducted entirely by the professors. The professors should also have a powerful voice in the general administration, aided by a small and select number of laymen.

(F) The principal officer in the University should a whole-time vice-chancellor and, so far as possible, a scholar capable of taking some part in the academic activities of the institution.

One of the chief advantages of this series of local universities would be the scope afforded for useful experiment. For this reason, it is not proposed to suggest here any type-plan for their internal organisation. Variety is desirable to suit local circumstances; and elasticity is essential in order that initial faults may be corrected and features which have proved successful in one centre may be introduced elsewhere. The legislation undertaken for the incorporation of these bodies should therefore be of the simplest kind and might well resemble the French university legislation of 1896. Such an Act would also be of general application and would enable the creation of a series of universities from time to time as each centre came to justify the possession of control over its own teaching and the conferment of its own degrees. The Act might delegate the framing of initial

SHARP, The Hon'ble Mr. H.—*contd.*

regulations regarding constitution, courses, etc., to bodies of commissioners subject to the ultimate sanction of Government. This will facilitate legislation and avoid rigidity.

The affiliating and examining body will continue to control the majority of the colleges, *i.e.*, those which are not yet fit to be transformed into local universities nor so situated as to be capable of forming integral parts of the same.

The chief dangers of such an organisation are the lowering of standards, the lack of due representation of local or special interests (*e.g.*, Muhammadan interests) and the continuance of external examinations on an enormous scale. It is necessary that the degrees of the affiliating university should not fall into disrepute and come to be regarded as "external" degrees. The examination will be improved by the establishment of the standardising agency and the resultant spirit of competition; but the difficulty of large numbers will remain.

In order to minimise these difficulties, there should be some radical changes in the constitution of the University. Its form might well be made to approximate to that recommended by the Royal Commission on University Education in London; and, though it would be impossible to go so far as that Commission would in the matter of delegating examinations, something may be done towards dividing the area into sections for examination purposes.

(1) The Senate would be a representative body concerned with legislation and, along with the other bodies, with recommendations for the affiliation and disaffiliation of colleges.

(2) There would be a small syndicate, for the discharge of all administrative functions, answering to and composed on the lines proposed for, the Senate of the London University as suggested by the Commission.

(3) The academic body and the faculties would be separate from these bodies, save that the former would nominate representatives on the Senate and Syndicate and the Syndicate would nominate a smaller number on the academic body. The central academic body, consisting of the nominees of the faculties and a small number of nominees of the Syndicate and Government, together with one or two delegates chosen by the local universities, would frame the curricula, receive the recommendations of the faculties for the conferment of degrees and act as a moderating body and a court of appeal.

(4) Faculties of law, medicine and engineering would probably not be required, since the institutions which teach those subjects would have been absorbed in the local universities or have ceased to belong to any university organisation. The faculties of arts and science would each be divided into three—each pair having a fixed territorial jurisdiction, let us say for Calcutta itself, for Northern and Western Bengal exclusive of Calcutta and for Eastern Lower Bengal. Each faculty would consist of professors selected by the governing bodies of the colleges within these limits and of a lesser number nominated by the academic body and Government. It would co-ordinate the work of the boards of examiners within its circle and recommend to the academic body those deemed worthy of degrees. If it was found impossible to form faculties of science though, with some aid from the local universities, this should be possible, then this part of the arrangement should be left to a central faculty; the inconveniences of such an arrangement, however, are manifest.

(5) The boards of examiners, composed of professors nominated by the faculties and a smaller number of nominees of the academic faculty, would set the papers and value the answers and would conduct oral and practical examinations, each within the territory assigned to the faculty under which it worked.

It might be objected that a scheme of this kind would necessarily result in unequal standards in the circles allotted to the different faculties. This tendency should be checked by the academic body; and much might be expected from the presence of external examiners, free and informal discussion between the faculties and the affiliating and local universities, and assistance rendered by one body to another. Even if this did not result in complete uniformity, a moderate margin of variation in the standard would be a cheap price to pay for the satisfaction of local claims, the awakening of local interest, the reposal in local professors of a certain measure of confidence, the possibility of oral tests and of reference to college records and the gradual breaking up of a lifeless and unwieldy system of examination.

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The University of Bengal, as such an organisation may be called, would continue the unavoidable system of affiliation and examination. But that system would be tempered by the delegation of powers and stimulated by the co-existence of local universities and a standardising agency of examinations.

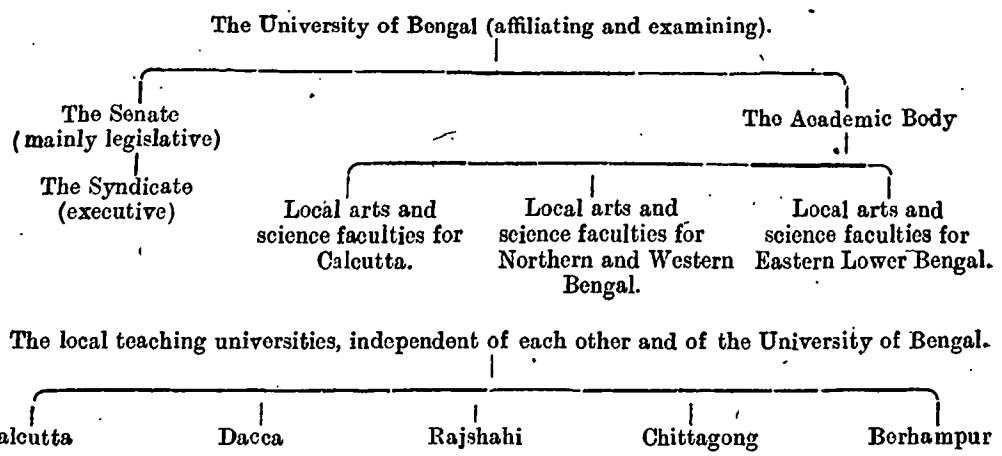
The *standardising agency* would be of two kinds.

(*a*) The principal agency would be the Board for conducting examinations which will qualify candidates for Government service and certain professions. This Board and its operations will be described under question 15.

(*b*) Another agency will result from the informal reciprocity in academic matters which may be expected to establish itself between the various universities. This would take the form of exchange of examiners, consultation regarding curricula, comparison of the results of teaching, etc. A standardising agency of great importance may thus be formed. But it must depend, less upon statutory obligation, than upon mutual confidence and the desire to give and to receive assistance. One of its advantages would be the relief it will afford to subsidiary academic bodies and new local universities in the early stages when the material for forming effective facilities will as yet be incomplete.

The general effect of this system should be that it will enable Government to exercise, without direct interference, an effective and automatic check through the examining board, and that a spirit of mutual trust and helpfulness will be engendered through the assistance rendered by one university to another and by the universities to the examining board.

The outline of this scheme is pictorially shown below.


The University of Bengal (affiliating and examining).
The Senate (mainly legislative)
The Syndicate (executive)
The Academic Body
Local arts and science faculties for Calcutta.
Local arts and science faculties for Northern and Western Bengal.
Local arts and science faculties for Eastern Lower Bengal.
The local teaching universities, independent of each other and of the University of Bengal.
Calcutta
Dacca
Rajshahi
Chittagong
Berhampur

Finally there will be the examining board, which will have no connection with the universities, but will admit their graduates of appropriate standing to various examinations and thus serve as a standardising agency. This is described under question 15.

The scheme outlined above does not pretend to be detailed or free from defect. In some respects details will be supplied in the answers below. Of the criticisms which may be urged against it perhaps the chief are the following:—

(i) The system of having two universities at a single centre, one for teaching and the other for examining, has at various times been condemned. The question has been discussed mainly with reference to the University of London. Even the Gresham Commission recommended a separate standing board for the examination of external students. Two of the members of that Commission did not allow the possibility of combining teaching and examining functions in a single body. But the problem presented by Bengal is very different from that presented by the London University. The problem of the internal and external student in London is distinct from that of the products of teaching and examining universities. Moreover, the present scheme is intended to provide for the Presidency of Bengal, which contains 45½ millions of inhabitants and only one university. The population of the United Kingdom is the same and it contains 18 universities. It will be answered that university

SHARP, The Hon'ble Mr. H.—*contd.*

education in the United Kingdom is far more advanced. In point of quality there may be truth in this remark; but as regards quantity the number of university students in the Presidency of Bengal is greater than that in the United Kingdom—*viz.*, about 23,000, against about 18,000, though the latter number is probably below normal. A multiplicity of universities, some of them different in type, has not so far as I am aware, proved injurious in the United Kingdom. It would be difficult to urge any objection against the affiliating and examining institution with its head-quarters at Calcutta and independent local universities forming, so to speak, *enclaves* in the territory over which the former has general jurisdiction. One might just as well object that the 'external' organisation in London rendered impossible the existence of Oxford, Cambridge, Manchester, Liverpool, Leeds, Sheffield, etc. objection might indeed be raised to the co-existence in the city of Calcutta of a great teaching university and of an affiliating university. If such a difficulty appears to be insurmountable then the idea of a purely teaching university for Calcutta may, at least temporarily, be dropped and an organisation may be brought into being similar to the new University of Patna, the local universities at Dacca, Rajshahi, etc., however, being given complete independence as they are created. I would regard such a compromise as far preferable to any failure to bring into being new institutions of a unitary and self-governing type. At the same time I should regard the arguments which led to such a compromise as unsupported by the facts of the case and I should be sorry to see the teaching functions of the University of Calcutta thus handicapped from the beginning by extraneous work. Another alternative would be the removal of the teaching university of Calcutta to a place outside that city (see under Question 21).

(ii) It may be objected that the materials for creating independent universities are meagre. The same objection will apply to the academic delegacies of the affiliating university. This is a difficulty which must be faced and we must be content with modest beginnings. After all, that which exists at Dacca or Rajshahi is probably not inferior to that which existed in the case of certain universities which have rapidly expanded into successful institutions. The main thing is to make a beginning—not with the full number of independent universities at once, but with two or three in the first instance and with others as circumstances justify. If in each case as it arises in turn a clean beginning is made, local confidence will grow, local benefactions will be encouraged and the formation of larger and superior staffs will be facilitated.

(iii) It may be urged that the imposition of an examining board will increase the evils of examination. Those evils in India do not arise from excess of examinations. The number of examinations is not overburdening. But the manner of conducting them and the scale on which they are conducted have tended to certain methods of instruction and have overwhelmed the institutions which present candidates. The provision of smaller examining centres and the reduction which will thus be made possible in the external character of the tests should in itself work considerable reform. The further examination for Government service and certain professions will apply only to some of the students and is desirable for maintaining uniformity of standards. This system is pursued in making appointments to the Indian Finance Department. The staffing of that Department forms a recommendation rather than a condemnation of such a system. But if it is held that the subjection of a student to a subsequent examination within a year of his taking his degree forms an insuperable objection (though various precedents might be adduced in its support) then resort might be had to the system pursued in some continental countries whereby Government itself confers the degrees which qualify for service and the professions. I should, however, consider this a less excellent way, because, for the majority of students, the academic test would then be made identical with a vocational test, a point regarding which further remarks are made under question 15.

(iv) Even if it be allowed that the examinations will not be excessive in number, it may be objected that the establishment of the examining board means the perpetuation of the external examination—one of the things we are especially concerned to avoid. As a matter of fact, this written examina-

SHARP, The Hon'ble Mr. H.—*contd.*—SLATER, Dr. GILBERT—SUTHERLAND, Lieutenant-Colonel D. W.

tion should be a short one, confined to a few subjects, and the examiners should attach great weight to the record of the candidate, his past achievements and the result of an oral test.

(v) Above all, it may be pointed out that the change proposed will leave things very much where they were before, since the local universities will affect only 6,000 or 7,000 students and the rest will remain under the affiliating system. But the effect of the local universities is not expected to end with the students they actually educate; the great thing is to make a beginning, and the other changes suggested will help to remedy the inconveniences entailed in a wide affiliating organisation.

On the other hand, it appears that some such scheme is essential in order to remove university education from the groove into which it has fallen, to reduce by multiplication of centres the impossibly large number of examination candidates, to restore confidence on the part of the outlying districts and to cater for special local requirements.

SLATER, Dr. GILBERT.

The question of the improvement of Indian universities cannot be adequately considered apart from that of education generally. The lamentable fact that university work consists very largely of mere cramming and being crammed for examinations, that it is the degree which is desired by the students rather than sound knowledge or mastery of the methods and principles of the science, is not entirely due to defects of the regulations of the University or of its relation to Governmental appointments, but perhaps to a greater extent to the inferior quality of the system of education through which students have passed before entering the University. This is essentially a question of money. Though their status is improving, teachers are still a depressed class, badly paid and little esteemed, recruited from those who can find no other work to do. To make teaching a fairly remunerative and honourable profession would react on the universities in two ways. It would provide the universities with a body of students who are more fitted to profit in the courses, and more disposed to study in the right spirit. It would also give to more graduates prospects of honourable careers.

SUTHERLAND, Lieutenant-Colonel D. W.

My views in regard to university education in India may be briefly expressed as follows :—

(*a*) I think an Indian university should concentrate itself solely on the higher education connected with the granting of degrees and should make over all non-degree examinations to the Education Department. In particular, I think the present entrance examination should be abolished, and that the Education Department should be allowed to institute a school final examination in its place. In place of the entrance examination I would suggest a special matriculation examination restricted to candidates who wish to begin a university career and to study for some or other special university degree.

(*b*) The scheme of education in force in Australia is more suitable to the needs of India than any other system I know. I can speak of its value from my own personal experience, for I was born and brought up in Australia. Briefly, the Australian system consists of :—

(*a*) State schools under the Minister of Education where general education is imparted up to a distinctly high standard.

(*b*) Colleges and Grammar schools, which are preparatory schools for the university matriculation and for other special examinations for the services, and for business life.

(*c*) The University and its affiliated colleges, concerned solely with academic instruction and with the granting of degrees.

SUTHERLAND, Lieutenant-Colonel D. W.—*contd.*

(*c*) Each Indian university should be a teaching university, and not simply an examining body for the granting of degrees. It ought to be on the Australian model, with its central block of administrative offices, and with its own arts, science, medical, law, and other colleges in close association. All colleges other than those of the university group should be merely residential colleges for students, but with lecturers to act as tutors to resident students in their non-university hours. In Australia many of the colleges of this class are denominational—such as the Trinity (Church of England), Ormond (Presbyterian) and Queen's (Methodist) colleges in Melbourne, and St. Paul's (Church of England), St. John's (Roman Catholic), St. Andrew's (Presbyterian) and Wesley (Wesleyan) colleges in Sydney I think denominational residential colleges on much the same lines could be readily arranged for in India, and I think they would solve the problem of students' hostels which at present is always a difficult one. All university students who do not live with their parents or guardians should be encouraged to live at these residential colleges, and the colleges themselves should be constructed and administered by the respective religious communities—Hindu, Sikh, Musalman, etc. Carefully selected men of each community should be the masters and lecturers of the respective colleges, and should be responsible to the University for the moral and physical welfare of the students in their charge. I am not at all in favour of the present scheme of Government hostels for separate colleges, and think it is a far better plan to have all students of the same nationality—whatever their course of study—in their own residential college. It also broadens a student's mind to mix constantly with other students undergoing a different course of study to his own.

(*d*) In university life the students should have the closest possible association with the University. They should pass the matriculation examination of the University to gain admission, taking up any special extra subjects which may be prescribed for the course they are to follow—whether medicine, science, arts, law, engineering, etc. They should register their names as university students at the university office, and should deal direct with the university office on all matters connected with their courses of study and with their examinations. They should be medical students, law students, arts students, science students, etc.—as the case may be—in name right from the commencement, and should feel all the time that they are university students, and not merely students of a particular college. I think also it would be of advantage to make them wear gowns when attending lectures.

To illustrate the above point I will show how little association the Lahore medical student has with his Punjab University—He begins by entering a science college, where his name is registered for the University by his principal, and he only comes in contact with the University when he appears for his F.Sc. examination. He then joins the Medical College, where the principal again registers his name for the University as a medical student, and for the succeeding five years he considers himself a student of the Medical College and sees practically nothing of university life, and hardly comes at all into contact with university students of other faculties. His name is sent in for the various M.B., B.S. examinations by the principal, who also collects the examination fees for the University. The student's only association with the University is when he goes three times in the course of five years to the university examination hall to sit for his degree examinations, and when he looks later at the university notice board to see whether he has passed or not. His last touch with the University is when he is called up some seven months after passing his final examination to receive his degree at the Convocation. Under the present system I cannot see how any Indian student can feel himself to be a university student in the same manner that students do in the United Kingdom and elsewhere.

(*e*) With regard to medical study and its connection with the University there are a few points worth bringing to the notice of the Commission. One is the imper-

fect knowledge of English, the bad handwriting, and the poor spelling of many of the students passed on to us from the arts and science colleges. That ought to be remedied by greater neatness in writing and greater correctness in spelling being insisted upon in the entrance, arts and science examinations. Another point is the question of the preliminary sciences in relation to medical study. Formerly instruction in chemistry, physics, botany and zoology was part of the medical curriculum, and the teaching of those subjects was carried out at the Medical College, but some eight or nine years ago all such instruction was made over to the Science Faculty. That transfer was, I think, a mistake, for our students no longer associate these science subjects with the medical subjects to follow, and are of less value to us than their predecessors used to be. Personally, I should like to have science teaching for the M.B., B.S., course again taken over by the Medical College. Apart from these two points the Lahore medical curriculum in its relation to the University is quite satisfactory, and on the whole quite a good curriculum. The matter of examinations, however, must be commented on for too much stress is laid by the University on the written examinations and not enough on the practical and clinical examinations. In the Punjab only half as many marks are awarded for the practical and clinical examinations as for the written, and up to the present the Medical Faculty has not been able to persuade the University of the absurdity of this practice. In consequence, with a pass percentage of 33 per cent. in each subject and 50 per cent. in the aggregate, it is not easy to fail a student for defect in the practical examination when he has good marks in the written, and the percentage of passes is therefore much higher than it ought to be. I think the marks for the practical and clinical portions of an examination should be the same as for the written, and I believe it would also be an advantage if the note books with the results of the work done in the practical classes in the college, and the case taking notes of the hospital work could also be considered along with the university results in determining passes and failures.

WALKER, Dr. GILBERT T.

In reply to the invitation for any suggestions that are not covered by the Commission's questions, I would forward the following remarks:—

From whatever standpoint we attempt to improve the university teaching of India, we are continually brought up by the fact that no efforts can be successful unless there is a really efficient governing body. In the first place members of this must be prepared to devote time and enthusiasm to committee work; and though I have a very high opinion of those members of the staff, that I have met, I know that they cannot spare sufficient of the energy that this work demands in addition to that required for their routine duties. In other words, the man-power of the staff must be increased.

Secondly, and even more important in my view, is that there shall be on the governing bodies men of experience and knowledge of modern methods in sufficient numbers to exercise influence. The syllabus of subjects taught, the mode of teaching and the character of the examinations require revision from time to time or the whole teaching becomes paralysed by lack of contact with the living and growing science. Mathematics is one of the oldest sciences: yet the mathematical tripos has only kept its usefulness by changes amounting almost to reconstitution about every fifteen years, together with gradual growth in the intervals. Thus since 1885, Part II, with its optional subjects, has been introduced because it became impossible for any man to cover the whole of mathematics, the order of merit has been abolished, and Part I has been made easy enough to be taken after a single year of residence. All subjects are growing and the system must develope with them. Now, at Cambridge the vested interests are less strong than in Calcutta, and there are about 60 Fellows of the Royal Society living in the town but it often requires

a hard struggle to get a reform carried. Hence, I see little hope of real efficiency at Calcutta unless there is a much more numerous representation of modern ideas.

A large proportion of Fellows of the Royal Society in India are not in any Education Department; hence I think it would be a great gain to the universities if some informal method could be devised of bringing specialists who are not in the local Education Department into closer touch with them, especially as the number of specialists may grow rapidly in the next ten years.

One scheme that has been suggested is that there should be science services; and that a man in the chemistry service might serve as professor say for five years then finding that his enthusiasm for teaching had diminished considerably, he might become chemist to the Geological Survey. Later on if promotion there were not good enough, he might occupy a more highly paid post as chemist in some department of technical chemistry and finally perhaps become Director of the chemical service. I am still uncertain regarding the general working of the scheme; but as far as university teaching is concerned, there can be no doubt as to its extreme usefulness. It would give the colleges of India the chance of hearing a man lecture either when fresh from an English university or later on when his experience of practical conditions had matured and stimulated him; and if he were a failure at teaching he could be moved on without great difficulty.

WATKINS, Rev. Dr. C. H.

On receiving an application for admission, if the student asks for such subjects as we teach, he is furnished with a prospectus and an admission sheet. If not, we offer him an alternative for any subject in which we are not yet affiliated. If he passed the Matriculation in the first division, we sometimes expedite matters specially. In the case of scholarship-holders, we always do so, and we give a "free studentship" in addition. If a candidate passed in the third division, we ask for special testimonials, and, unless these are thoroughly satisfactory, we reject him. As the funds for the college have been provided, thus far, almost entirely from local sources, we give some preference to local applicants. Apart from these considerations, admission depends on the date of application and on the accommodation available in the particular classes he wishes to attend; also, if he desires to live in one of the hostels, on the room available there. Occasionally an admission is delayed or refused on the ground of political suspicion.

All students are required to pay their fees, and hostel students are required also to pay their hostel deposit, before the admission sheet is signed by the principal.

In some instances students have had to be rejected after sending money orders (uninvited) or taking long journeys, our view being that such considerations are of no importance compared with intrinsic fitness.

All students are required to state, on their admission sheets, the religious body to which they belong, but we do not differentiate between them on this ground. We are not—or not yet—a Government college, so that we are left more free to choose in this and many other respects. However, the practical working of circumstances has somewhat favoured the Muhammadans. A very good proportion of them matriculated in the first division, several of them were able to say in advance that they had special stipends, and we have abundant accommodation in the Muslim hostel as well as in the Persian class-room. We have, of course, shown them no partiality on religious grounds as such.

Our percentage of Muhammadan students is about 17·2, and of Hindus about 82·8.

One of my first tasks will have to be the investigation of the suitability of the students' guardians; in some cases, perhaps, even of their genuineness. Many guardians are elder brothers, little older than the students themselves, and of these a large number live at a distance. The local guardian in Rangpur is in many cases an unknown quantity

to me, and he is not always known to anyone in the college. It is therefore difficult, at the moment, to say how much there may or may not be of wise supervision. This needs to be altered in view of the fact that so many students are quite young and at a great distance from their homes, and also because of the present political unrest, prevalent so largely among the student class.

With us, however, the problem will be to a large extent solved automatically about next June, when we shall remove to our new site, and nearly all our students will come into residence.

I am not very clear as to the scope of the question relating to transfers, and I have little theory on the point.

In practice, I have made no difficulty concerning transfers, whether from us or to us. We should rarely reject a student with a transfer certificate properly filled in. If we did, political suspicion would perhaps be the most likely ground. I find that a student occasionally desires to be transferred from us without sufficient evidence as to the reason, and I am insisting on medical certificates, counter-signature by the guardian, and the other safeguards laid down in the university regulations.

We have a large number of transfer students owing to our being a new college, and owing to local men coming back to Rangpur who would have preferred a local college all along, if there had been one. Most of these joined before I arrived in October.

Many of them are "plucked" men, and all alike have the disdvantage of changing their course and their teachers in mid-stream. I expect this to have a bad effect on our first set of examination results.

Thus far we have sent no students in for any public exmination.

WILLIAMS, Rev. GARFIELD.

* *Educational report submitted.*

CHAPTER I.

GENERAL INTRODUCTION.

The progressive realisation of responsible government in India which has been announced by the Secretary of State as the goal of British policy, depends upon the creation of an electorate, on whose will the work of governing shall be based. A potential electorate sufficiently large or intelligent for this purpose does not, at present, exist. For the purposes of this report we have set ourselves to determine how far education can assist in the creation of an adequate electorate, and what kind of education will produce, as quickly as possible, as many citizens as possible to bear the burden of responsible government. This definition of the problem before us shows exactly where the difficulty lies. It may be summed up in the word "creation." No previous Government has ever attempted such a task. Wherever we have self-governing institutions these have been the result of a long process, during which, on the one side, a feeling of national needs has gradually forced itself upon the minds of the majority of the people, and on the other, the Government has come to realise that only in sharing more and more widely the responsibilities and powers of administration can the work of that administration be carried on successfully. In all cases the demand has been widespread before the concession has been granted, and the transference of powers has not involved the creation of an electorate to exercise them; the material for an electorate has already been in existence, or has only awaited recognition. This is strikingly exemplified in the case of Britain. During the whole of the nineteenth century, the lower classes of English society were becoming increasingly aware of their importance in the State, and increasingly determined to obtain a share of political power corresponding thereto. Gradually, in answer to their conscious demand, responsibility in the work of government was made over to them. But this responsibility was not conferred merely as

* This report which in a slight modified form was the work of others beside myself is submitted as representing my general views on educational reconstruction in India and the necessity of dealing with the subject as a whole rather than in compartments

WILLIAMS, Rev. GARFIELD—*contd.*

a palliative to agitation; it was generally recognised that the political education of the people had been such that their demands were legitimate, and could be satisfied without grave dangers to the safety of the State. Politically, we may say, their education had been sufficient; intellectually, there were many shortcomings. These had long ago been pointed out by educational enthusiasts, such as Lancaster, Bell, and Broughham; and the people themselves, in the course of their advance along the road of responsible government, began to realise the necessity for education. Nor could the Government itself ignore for long the national need; the dangers of an ignorant electorate were manifest: the will of the people and the will of the Government were at one, and the education of the electorate was undertaken in earnest.

In India the case is far otherwise. The demand for responsible government comes from a very small section of the community; we cannot say that it represents a unanimous feeling among the majority of the people. So small, indeed, is this section of the community, that the transference of responsibility and power into their hands would result, not in the realisation of responsible government, but in the creation of an oligarchy, which would inevitably, despite the best intentions in the world, end in government in their own interests by the present literate classes. In these provinces, out of 13½ million adult males, only one million are shown by the last census as literate, and the test of literacy is so low that only a small proportion of this million can be assumed to possess even the lowest educational qualification for an intelligent electorate.

If, therefore, we are to create an adequate electorate we must raise this low figure considerably. This would seem to be the task of education. Plainly, however, it is a slow process. Not only must education be extended to many classes at present outside its influence, but the quality of the education given must be greatly improved. In the creation of an electorate, education, it is obvious, can do much. The perfect fruit of education is a sound judgment; the educated man may not be an expert in any single subject, but he will be able to examine intelligently evidence put before him, and arrive at a conclusion based on common sense. Such a man is the ideal elector. If we can build up a system of education which will produce this type of intelligence, the task of education, defined above, will be completed. Quite apart from curricula and mental training, we can secure also, in the atmosphere of our schools and colleges, influences potent to produce that self-reliance and independence of judgment which are essential to the intelligent voter. This formation of character is as much the task of education as is intellectual training.

But when we come to consider this question of the character of the voter, it becomes clear that education alone, that is to say the education of school and college, with all the influences that are implied therein, will not, of itself, teach the prospective elector to realise what a vote means and how it can be employed. Democratic institutions, alien as they are to the genius of India, will never be understood, in their full bearing, through merely intellectual demonstration, however complete. No theory in this field is of any value when separated from practice. Education in citizenship is not merely a question of school courses and academic organisation; it implies a definite share in the business of government. The creation of a class intellectually equipped for the duties of an electorate, but totally inexperienced in the practical exercise of such duties, can only lead to national disaster. Recent events in Russia, to say nothing of those which gave the French Revolution its distinctive character, should be our warning.

Again, if education is to be widely extended, as it must be if our ultimate electorate is truly to represent all classes in India, then the desire for education and the appreciation of its value must, also, be more widely felt. It is not our business to fix the nature of the qualification which would be applicable to immediate needs; we have rather to solve the difficulty of providing an educational system that will ensure a growth towards an adequately educated electorate at a not very distant future. Such an electorate would have to include many members from classes engaged in manual and mechanical labour. At present, classes engaged in such work in India do not realise the necessity for education, any more than they did in England before 1870. So far from considering that it may raise their level of efficiency in the occupation upon which their livelihood depends, the majority of them do not realise that education has any message to give, or any benefit to confer. As a result of the operation, partly, of a caste system

and the traditional division of labour, and, partly, of natural and economic causes, education has come to be, in practice, the privilege or monopoly of a class. Here, again, we are confronted with the same danger. To multiply facilities for education, without providing that this education shall be equally accessible as far as possible to all classes, would result in the continued exclusion from the potential electorate of that great bulk of the people upon which the prosperity of the country depends, namely, the agricultural population. Nor is it sufficient merely to make education accessible; it must, somehow or other, be made attractive to those classes which have not hitherto seen its value. No change in the direction of a more vital teaching of subjects more practically important to these classes will of itself effect this conversion. But a change may be made in the direction of more effective propaganda, and we believe that much can be done in this way, provided that we can secure as missionaries of education men who are themselves enthusiasts, fully convinced of its utility and power. The need for primary education is there but at present it is latent. The cultivator and industrial worker is usually unconscious of it; the educational propagandist must make him conscious of it. We are not without a precedent when we urge this course of action. In the 70 years or so which supervened between the replacement of apprenticeship by the factory system, and the introduction of Mr. Forster's Education Bill of 1870, the desire for primary education on the part of the masses had to be stimulated by the enthusiasm of educationists and by their propaganda among the upper and middle classes of the population. This took the form of showing the people that elementary education was necessary as the groundwork of democratic institutions. A similar demonstration must be made in India. To this end we must so train and inspire our primary school masters and elementary school inspectors as to make them enthusiastic missionaries of education. Their work will, we believe, be assisted, to a certain extent, by changing economic conditions. There is already a stirring of agrarian discontent; there is already a tendency to combine for social improvement. The future of India, it is generally agreed, depends largely upon the development of her resources. When this development takes place, there will be a greater demand for skilled labour. The element of competition will be introduced. This will react upon the agricultural population. It will be seen that education enables a man to get on better in life, not only because he is thereby fitted for some more lucrative employment than agriculture offers, but also because he becomes through education a better agriculturist, knowing how to make the most of his resources and how to sell his produce at the best profit. Two results will follow. Education will be more appreciated, and consequently desired, by the present illiterate classes, and there will be more openings in life for the literate classes; the old barrier between these two sections of the community will be weakened; the desire for economic and social improvement will bring with it political aspirations to secure that improvement, and both will produce a demand for education among people at present unmoved by any issues wider than the needs of the day.

While it is clear, therefore, that political and economic factors must co-operate with education, if responsible government is to be progressively realised in India without those upheavals of society which have occurred too often in other countries, yet it is also obvious that education is of paramount importance. The danger of conferring political power upon an ignorant and unintelligent electorate is too great to be faced. The situation that would follow such an act in India staggers the imagination. If the people are to govern, and ultimately it is the people that must govern always and everywhere, then the people must be educated and that as quickly as possible. This is the problem which confronts the political reformer, and this is the problem which the educationist must help him to solve. This involves, we are convinced, a complete reconstruction of our educational system. Indian education is an organic whole, no part of which can be modified without affecting vitally the other parts. At the same time, the present system is so utterly inadequate to the progressive realisation of responsible government that nothing less than a change throughout the entire structure will suffice to secure the objects we now envisage. We cannot attack the problem by compartments. Secondary education depends upon primary education, and university education upon both. No reform of the universities can be undertaken with any hope of success while the secondary schools remain as they are, and no reform of the secondary schools is possible without an entire re-modelling of primary education.

CHAPTER II.

PRE-REQUISITES FOR THE EDUCATION OF THE ELECTORATE (PRIMARY EDUCATION).

Bearing these considerations in mind, we may now proceed to determine the manner in which education can assist in the formation of an electorate. From what has been said, it is obvious that education must be extended as widely as possible, in order that our electorate shall be representative. This is particularly necessary in the case of India, for here a small electorate is incapable of representing the people as a whole, and an oligarchy is easy of formation. There will have to be a much larger number of educated persons among all classes of the community before it will be possible to say that the danger of inequitable or inadequate representation of the people has been averted. The writers of this report are educationists whose work is chiefly in the United Provinces of Agra and Oudh, hence the statistics used and the more specific references will refer to these provinces. In order to obtain for the United Provinces an educated electorate of between two and three millions, it will be necessary to turn out our educated electors at the rate of some 100,000 per annum. This means that primary education must not only be much more widely extended, but also greatly improved in quality.

In respect of quantity, it has been exceedingly difficult to get reliable statistics to help us to an adequate statement of the present position. Up to the time of writing we are for the most part obliged to rely upon figures for the year 1912, and even in regard to these, we have grave doubts, for primary school statistics are notoriously inaccurate. In that year there were 553,000 boys in the primary schools, divided up among its six classes in the following manner:

Class	A	214,000	328,000—Preparatory stage.
„	B	114,000	
„	I	87,000	152,000—Lower primary stage.
„	II	65,000	
„	III	39,000	73,000—Upper primary stage. (In 1916 this figure was said to be 105,481).
„	IV	34,000	

Of the 34,000 in the IV class, only 19,439 passed the upper primary examination. So far as *total* attendance is concerned, we are able to say that in the five years intervening between 1912 and 1917 the numbers have increased to nearly 700,000 (an increase of 150,000).

Let us for the present leave out of consideration the rapid rate of increase of primary education. We have, at this moment, in the primary schools, a number of potential electors more than sufficient to supply the annual figure of 100,000 a year which is required to feed our proposed electorate of between two and three millions. If only we can save the wastage which now occurs, we shall reach our electoral figure in little more than a decade. But the enormous wastage between the preparatory classes and the upper primary class IV still continues, since the number who passed the upper primary examination in 1916 is only 24,877.

Indeed, we estimate that if the present wastage is allowed to continue, it will be *more than a century* before the proposed electoral figure of from two to three millions is attained. In an ideal system, with a population showing an interest in education, the enrolment of 214,000 in preparatory class A should produce an attendance in class III (which is where we intend the primary school to end) of about 200,000. (In this connection it must be remembered that many boys never pass through the preparatory stage at all, but come in straight at the lower primary stage.) Of these 200,000, in any ideal system, 100,000 should come up to a standard fitting them for education higher than the primary stage.

WILLIAMS, Rev. GARFIELD—*contd.*

A great expansion, therefore, in the numbers of those who enter the primary schools is not necessary; but it is essential to secure that those who enter shall remain to the upper primary stage, and that of these a larger proportion shall pass on to the higher stage of education. This brings us to the consideration of the quality of our primary schools.

In respect of quantity, it is significant that in 1916, while there were 508,304 pupils reading in the lower primary stage, in the upper primary there were only 105,481. Moreover, only 33,673 entered the upper primary examination, of whom 24,877 passed. The wastage between the lower primary and upper primary classes speaks for itself. Many boys never pass beyond the preparatory stage, and many more fall out after the lower primary stage. To what is this wastage due? Evidence shows that if the primary school teacher took interest in his work, did it properly, and enlisted the sympathies of the parents, this wastage could be largely avoided. At present many boys fall out by the way-simply because the teacher takes no interest in their progress. Especially is this true in the case of the preparatory classes, where the curriculum is thoroughly unpractical, and the teaching very inadequate. A boy often spends two years or even longer upon a course which should at most occupy one year. Parents cannot be expected to be enthusiastic about primary education when such is the state of affairs. At present no apparent advantage accrues to the primary school teacher from encouraging parents to continue the education of their children beyond the preparatory stage. Provided the teacher can retain a sufficient number of boys to secure the status and grants, he does not gain anything by increasing the numbers in his school. An increase in numbers would, in fact, give him more work without more pay, and would entail the risk of a smaller percentage of passes in the upper primary examination. In England, at a similar political stage in elementary education, the "payment by results" system was instituted. It is interesting to note that it was instituted as a remedy for the same kind of difficulty as we are trying to combat in India. It is now admitted on all sides that it was perfectly legitimate as a temporary expedient. Educationally, it may become pernicious, if allowed to continue beyond a certain time, but practically it is essential at the early stages of a national system of elementary education. We are deliberately of opinion that, under the guidance of an efficient inspectorate, with full knowledge of its educational dangers, this method should be used in India; and that both the school *and the teachers* should get additional grants and emoluments for every boy they pass from the primary school into the school we call national. So that we are prepared to advise as a further aid to efficiency in the upper classes of the primary school some system of "payment by results." The apathy of the parents, of which we hear so much, must be ascribed partly to the apathy of the teacher and of the inspectorate. Yet we cannot expect from the teacher anything but apathy under the present conditions. A primary school teacher, if untrained, commences his career on a salary of Rs. 8 per month, which is less than the pay of menial servants. Even a trained teacher will get only Rs. 10 to 12, which, if he has children, is not sufficient for the bare necessaries of life. Nor will good work improve his prospects. Can we wonder that he loses interest? No man of any parts or ambition will take up teaching in primary schools as a profession. The consequence is that only ignorant men, who cannot do anything else, engage in this work, and the teacher is despised in the village. Sometimes, we are informed, the teacher, whether trained or untrained, is unable to write three pages of the vernacular correctly, and his ignorance of literary usage makes him the laughing stock of any educated man. On the other hand, the tradition of India is to respect the teacher; he is naturally the adviser of the village. A good man can fill his school and play a prominent part in village life. We must restore the teacher to this position. In order to do this we must, first of all, raise his pay. In no other country in the world does status depend so much upon emoluments. When the present badly-paid teacher goes to call upon a local zamindar he must now give place to the veriest menials. Is it likely that primary education will prosper so long as it is in the hands of men exposed to public affronts of this character? Not only, then, must we raise the pay of the teacher, but we must remove the reproach of ignorance which is the other cause of his degradation. We must attract better men to the profession by offering them better pay, and we must equip them more adequately for their work by giving them a better training. That training at present depends, directly or indirectly, upon the

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normal schools. These suffer from several serious defects. These may be briefly summarised as follows:—

(*a*) *Defects in recruitment.*—Not more than 20 per cent. of the men who enter the normal schools have obtained first class passes in the middle vernacular examination. None have passed a higher examination, for the simple reason that no other examination is recognised. The method of their selection is too haphazard; depending, as it does, upon the favour of the deputy inspector sometimes modified by the caprice of the district board.

(*b*) *Defects in the staff.*—A small proportion only are trained graduates, and even these take six months to learn the work of the normal schools, because they have been themselves trained to teach in English, and are now required to train their pupils only in the vernacular. Too often they despise these pupils as being mere rustics. Nor will the best type of man wish to remain on the staff of the normal school, when as a teacher in a secondary school he can add to his pay by private tuition.

(*c*) *Defects in curriculum.*—It will have been perceived already that the material sent up to the normal school is not good. The normal school pupils have not been well grounded in the vernacular, nor does the normal school curriculum remedy this defect. There is not sufficient practical training, because the staff is not large enough to supervise the teaching of the pupils in the model schools. The training tends to become too theoretical and too stereotyped, because the normal schools are out of touch with the requirements of town and country alike. There is but one kind of teaching and one examination for all, and there is no differentiation between men who are being trained for middle or primary work. Some of these men go straight into middle schools as assistant masters, others become headmasters of primary schools, and of these again some become teachers of the training classes to which most of the trained teachers in primary schools go. Thus it is that the defects in the normal school weaken the whole system of primary education through their bad influence on the teachers. It is obvious then that the training of our primary teachers requires much more attention than it has hitherto received. Our proposals will be found below.

When we have raised the pay of the teacher and given him a better training, one thing more remains in order to secure progress in primary education. We must call out the best in our teachers, encourage them to fill their schools and to keep up their interest in them. This will require an efficient and sympathetic inspectorate which devotes itself entirely to the requirements of primary education. At the present time our deputy and sub-deputy inspectors have neither the pay nor the prestige which the importance of their work requires. This is particularly notable in the case of the sub-deputy inspectors, who are chiefly responsible for the welfare of the rural schools. Promotion is slow and the work impossibly heavy, and good men will not enter the service on these conditions. The pay is so poor that to keep himself from starving the sub-deputy inspector is exposed to the temptation of supplementing his income by living upon the teachers whose work he inspects when on tour, and even, in some cases, by accepting money. Can we hope for any efficient inspection of the school when such is the practice? The deputy inspector is little better off. His pay and his prospects are insufficient to attract men of the right type. He has to serve two masters, the chairman or secretary of the district board, and the inspector of the division, and his post is correspondingly difficult. And yet this official, underpaid and overworked as he is, has to supervise all the primary and middle schools and training classes under the district board, to regulate the activities of his sub-deputy inspectors and often to help in the inspection of Anglo-vernacular schools. The educational life of the district depends principally upon him. It is no wonder that deputy inspectors exert themselves to secure a transfer to some other department. The cause of the evil when analysed is simple enough. Prices have risen within the last ten years out of all proportion to the increase in official salaries.

The immediate need, then, is to secure good teachers, and as a corollary of this, an adequate inspectorate, especially in its lower branches. It should be made plain by status and emoluments that the man engaged as an inspector, even of the lowest ranks

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of primary education, is doing work of as great national importance as anyone engaged in higher education, and work of greater importance than the majority of professional men. The man engaged as a primary school teacher must be of a type that will have as much influence in the village as the "Dominie" had in Scotland. He must be one of the most important men, if not the most important man, in the community, and he must be paid a salary and housed in accordance with his position. To secure a good staff for the training schools for primary school teachers, we recommend that State scholarships be awarded to suitable persons who have shown marked educational ability in practice or definite educational vocation, in order that they may proceed to England or the Dominions for training in this special class of educational work. The success of this scheme will depend upon its organisation over-seas. The Education Department in England should be approached with a view to securing that these men on their arrival shall enter as students into the best and most progressive normal schools, where they will be able to acquire not merely knowledge of method, but also an enthusiasm for elementary education. If in these normal schools they are allowed to form cliques with purely Indian interests and to live in isolation from their environment, their training will be worse than useless. We wish them to live in an atmosphere of educational enthusiasm, and if this can be accomplished, it is hoped that we shall be able, with the aid of such men, to create and maintain an adequate system for the training of primary school teachers in India itself. Such men on their return will be used to staff our training schools and our primary school inspectorate. They will aim at producing that spirit of enthusiasm for elementary education, which is at present lacking in the country. It is essential to the success of this scheme that such men shall find themselves both financially and socially in a position of equality with the average legal and medical practitioner.

Primary education is the lowest rung in the ladder of our educational system. Regarded thus, it must contain within itself germs of growth, but at the same time we must remember that a great many boys will never proceed beyond this stage. Primary education, therefore, must possess the two qualifications, of being a suitable base from which further educational progress can be made, and of being sufficient in itself to meet the actual needs of the cultivator and the industrial worker. It must give opportunity to the ambitious and able youth to climb up the educational ladder to success in business and learning, and it must offer such purely utilitarian advantages to the poorer classes that within a generation they will see the necessity of obtaining it for their sons as an indispensable aid to the successful accomplishment of their ordinary daily work. Because it can no longer be regarded even by the educational theorist as merely a stepping stone to higher things, in that it is, and will remain, the only education of the vast mass of the people; and because in its administration it is, and will, inevitably, tend always to be largely affected by considerations of local rather than provincial government, we maintain that primary education must form a separate department in the educational system.

The scheme for our revised system of primary education is, in outline, as follows. A boy of average intelligence will, we hope, enter the primary school at, or about, the age of 6½, and will remain until 10½.* He will be taught reading, writing and simple arithmetic. All these will be taught with reference to the needs of the district. For example, he will be shown how to read a map of his own village and district; how to deal with the patwari, and hold his own with the bania in making up or scrutinising accounts; the business side of agricultural life will be explained to him, and he will learn how to protect himself against the petty tyrannies of sharp practice. Special teaching of agricultural methods is not contemplated, expert opinion being unanimous that such teaching at this stage is worthless as well as impracticable. He will learn in the ordinary course the elementary facts of his environment, so that he may be less helpless against the forces of nature wherever they menace him or his belongings. School gardens may be retained, but we believe that hitherto their value has been educational rather than agricultural, illustrative of the general course, rather than definitely instructional. It is a subject upon which, we believe, the educationist would do well, for the present, to keep an open mind, and to welcome experiments such as those which are being undertaken

* NOTE.—It is exceedingly difficult in India to assign an average age for particular grades of education. The average age differs greatly in different provinces and in different parts of the same province. In this report where an average age is stated the reader must recollect this difficulty and make allowance for it.

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in the Allahabad district. A good teacher uses these gardens to awaken intelligence and arouse interest, but their educational value depends entirely upon his personality and skill.

It will be seen from this outline that though we do not provide in our primary schools a special training in agriculture for rural districts, yet we do insist that the teacher shall adapt the course, and his method of teaching it, to the needs of the locality and the circumstances of his pupils. But we fully realise that this insistence will be inoperative unless applied to a class of teacher much better trained than those at present in existence. The same scheme will apply *mutatis mutandis* to the town schools; we have given our illustration from the rural schools because of the preponderance which they have at the primary stage.

The primary school will consist of five classes, A, B (preparatory) and I, II, III. The reasons why in our opinion the primary school should end at class III rather than class IV as at present it does are as follows:—

(1) In respect of its functions, experts on agricultural conditions tell us that classes A, B, I, II and III should be ample for that practical type of education for the masses which they are anxious to see extended; and further we believe that with better teaching and a more helpful inspectorate a great economy of time and increase of efficiency can be brought about.

It is after the class III that primary education, in the arrangement of classes and curricula that now exists, becomes more literary in character and hence is undertaken largely with a view to further progress in secondary education rather than to meeting the actual needs of the cultivator and industrial worker.

(2) In respect of political conditions, all evidence that we have been able to get agrees with the opinion expressed by Sir James Meston that the Hindi-Urdu question does not become a living issue until after class III. We are extremely anxious to keep this controversy entirely outside of the primary schools and, as it were, locate it at one definite place in our educational system, where special measures will be taken in order to settle it in some amicable way. This can only be done by removing class IV to the higher type of school, *viz.*, the "national school."

(3) From the point of view of administrative efficiency, the termination of the primary school at class III makes the school more manageable both as regards teaching and accommodation, and helps to equalise the distribution of classes as between it and the next stage of education. Any unfairness to specially clever boys that might result is obviated by the overlapping of class III of the primary school and the lowest class of the "national school," so that double promotion is possible (*vide infra*).

For these reasons, then, the primary school will consist of five classes. A boy of average intelligence will have passed through these classes by the age of 10½* and be ready to proceed to the next stage of his education. If his education ceases at this point, he should at least have received such training as will make him mentally more intelligent, independent and self-reliant, materially more alive to his own interests and more capable of protecting them. Though educationally he will not possess the qualifications for a vote, yet should he claim through the possession of other qualifications to be eligible for that privilege, he may be trusted not to abuse it. This is as much as we can compass by our primary education under the most favourable conditions; but it is more than has ever yet been attempted, and we recognise that many years must pass before this ideal, modest as it may seem, can be realised. It takes time to train the teachers, and the success of the scheme depends wholly upon them.

We fully contemplate that the existing system of *maktabs*, *pathshalas*, and mission schools, especially for depressed classes, will be extended as necessity arises and philanthropy suggests the possibility. Here we simply suggest that, provided they attain the requisite standard of teaching and general educational efficiency, they should receive the benefits of departmental inspection and thus be eligible for Government grants in

*See note on page 467.

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the same way as other primary schools. Indeed, we hope that schools for depressed classes will be greatly extended by philanthropic agencies, and we believe that Government should very liberally help sectarian bodies of whatever kind, which are prepared to undertake this most needed work. The present rule in these provinces, that a school for depressed classes must *at the end of four years* be raised to the full primary standard, is quite impracticable.

Such is the scheme of primary education which we consider would be best adapted to the two-fold end we have in view, *viz.*, the education of the lower classes of the population for their place in the social organism, and the preparation of the more intelligent of them for a further development by education into an adequate electorate. We have stated emphatically that the success of the scheme depends upon the quality of the teachers and of their training, and upon the efficiency of the inspectorate. How are we to secure these two conditions of success? Through a department of education organised under the Government they could presumably be secured by a sufficient expenditure upon the training of teachers and inspectors, and upon salaries. But any such direct organisation would defeat the very ends towards which our education is directed, *viz.*, the progressive realisation of responsible government. If the people are to be entrusted with any powers and responsibilities at all, the very first of these powers and responsibilities must be as full control of primary education as exists elsewhere in democratic countries. Already in the district boards they exercise this control in some measure, and any scheme of devolution which we have yet seen contemplates the handing over of the powers of the district board to some body, larger or smaller, popularly elected. At first sight this abandonment of control, by the central or provincial Government, of a department so vitally fundamental to a national scheme of education, would appear to be fraught with grave dangers. Nor are these wholly illusory. It is quite possible, even probable, that at first efficiency will be sacrificed to other considerations and that the popularly-elected body will vote money for the less essential objects and neglect the provision for training and inspection. But unless an opportunity for mistakes is given, nothing will be learned. Experience will, we believe, beget greater wisdom, and that in no long time. Once it is realised that education is the business of the people, then the people will see to it that their elected representatives procure them efficient teachers in their schools. Again, it is only thus that education can become really national, and if the demand arises, as we believe it will arise, an elected council of this kind will be able to raise money for education from sources that never could be tapped by a government of the existing official type.

But when we speak of handing over primary education to popularly-elected bodies, we do not mean that they should begin *ab initio*. That would be an unfair experiment. It is, at any rate, our duty to leave our house in order before they enter upon their tenancy. But it is essential to provide more than this. The central government should maintain a department of primary education which should be concerned not with teaching, but with the training of the teachers and inspectors, and the provision of an inspecting staff. This department should consist of—

(*a*) Provincial chief inspector of primary education.
(*b*) Divisional inspectors of primary education.
(*c*) District inspectors of primary education
(*d*) Tahsil or sub-inspectors of primary education.

This should be at the service of local bodies, large or small, that may require advice or assistance. We shall best see how this department would work if we imagine a concrete instance. In district A under the jurisdiction of some popularly-elected body B, there is a demand for more and better elementary education. B finds itself unable to meet this demand. It appeals to the provincial Government and its Department of Education. That department comes to its assistance, and offers a grant to supply the educational needs of the district, but in return it requires the right of inspection in district A in order that it may be satisfied that the grant is being properly used.

If our provincial department of primary education is efficient, then the results in district A will very soon show the advantage of efficient inspection. Other districts will begin to compare notes and cast jealous eyes upon their neighbour. A healthy educational rivalry will be created, and the popularly-elected body B will be besieged by applications for similar treatment. And we anticipate that in the future these bodies will come to

recognise the desirability of primary education being supervised by some organisation external to themselves and will not resent it. This has been the experience in other democratic countries; for without such external supervision, the standardisation and co-ordination of primary education throughout areas larger than those controlled by the local bodies, has been proved by experience to be impossible. The advantages which elementary education in England and elsewhere has derived from an exactly similar process are too obvious to require indication. We realise of course that political development will probably some day make this external body as responsible to an electorate as the popularly-elected body B of which we have been speaking. As these bodies grow in administrative ability and demonstrate their fitness to manage higher branches of education, these too may be handed over to their control. But as a first step in this progress, primary education will suffice for their training in this kind of control. Unless they begin with this, our ideal cannot be realised within conceivable limits of time; but unless the central government reserves to itself funds to assist by grants-in-aid, and creates a department such as we have imagined, there is great danger that education will suffer. Under our scheme the popularly-elected bodies will have complete control of primary education, but advice and assistance will be ready to their hand if they desire them. They may have their own system of training and their own methods of inspection—we consider it highly desirable that they should. Local needs will create local enthusiasm to supply them, and the resulting energy may lead to fruitful developments in education. But we believe that, at first, they will realise the want of expert advice in these matters and will be glad to avail themselves of any opportunity to obtain it. The prejudice which now exists in some quarters against the Educational Department because it is official and imposes, as it were, its schemes from without, will under the new system, disappear; for the Department will serve and not rule, advise, not control. The central government by its right of inspection will simply retain the right of seeing that its grants are used to their fullest advantage.

CHAPTER III.

THE EDUCATION OF THE ELECTORATE (INTERMEDIATE EDUCATION).

A solid basis of primary education must precede an attempt, such as we now contemplate, to educate an electorate. We would once more repeat that the question before us is not the creation of an electorate to meet the political exigencies of the moment. We are here concerned with the ultimate educational qualifications of the voter and such reconstruction of the present system as will within a reasonable time help to co-operate with other factors in the production of an intelligent electorate. A question which must be decided at the very outset is whether our ideal elector shall possess some knowledge of English. We believe that he must, for the following reasons:—

(i) The political ideal which is at present dominating the thought of educated India is that of a united Indian nation. If this is to be materialised, there must be a language common to all India. English is the only language which fulfils the conditions necessary for a *lingua franca*. This is generally recognised by Indians themselves, and there is already a demand for a universal knowledge of English in India. In English alone, it is thought, can those ideals and traditions which are common to all India be expressed in a form which all India can appreciate.

(ii) If India is to take her proper place in the Imperial system, assimilate Imperial ideals, and herself contribute to their formation, a knowledge of English is essential.

(iii) There are economic reasons for requiring a knowledge of English among Indians. English is more and more becoming the language of the commercial world; the expansion of Indian trade will depend very largely on a knowledge of English among her men of business.

(iv) In the intellectual world, English is beginning to occupy a place somewhat analagous to that which Latin formerly held as the most practical medium for the expression of thought. It is through a knowledge of English that new ideas will penetrate most effectively to all classes in India.

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Ultimately, then, the electorate of India should be an English-*understanding* electorate. We take it as axiomatic that for many years to come the Indian citizen will think in his own vernacular. All we can aim at now is that our ideal elector should be capable of understanding the gist of an ordinary English speech or newspaper article. This result ought to be obtainable in a bi-lingual system of education. The instruction, therefore, which is to constitute our national system of education should be given mainly in the vernacular. English should be taught by trained language-teachers as an essential second language in much the same way as the German language is in Holland. By this means we shall rid ourselves of the incubus of our present system, and shall free ourselves from the accusation that we are asking our schoolboys to think in a foreign language. If English is the medium of instruction, a constant process of translation is taking place in the mind of the pupil, and we contend that this must inevitably retard his intellectual development.

At each stage of its growth the child mind has certain definite characteristics which it is the duty of the educator to use to the best advantage. At a very early stage most children have remarkable capacity for observation accompanied by an extremely retentive memory, which is merely mechanical in that it records impressions from which inferences are rarely drawn. What happens in the present Anglo-vernacular type of school? No sooner has the pupil achieved a capacity to read and write by much labour, no sooner is he equipped and ready to draw largely from the store-house of knowledge to employ his vivid imagination, his keen powers of observation and his sensitive photographic memory, than he is again set down to the monotony of stumbling through an alphabet and struggling with shapes and sounds. To add to his difficulties he has to tackle a foreign and unphonetic language with the help of teachers who employ a method half phonetic and half merely fault-finding. Nor is this the sum of his misfortune. In most parts of India the teaching is conducted in English, with the result that only the most meagre information can be imparted, of which perhaps a third is comprehended by the scholars, and all power of expression is limited by a necessarily insufficient vocabulary. Here becomes apparent the educational crime that is being committed in schools of the Anglo-vernacular type. The Indian boy has but one method of self-expression—the literary—and because English has been elevated into the be-all and end-all of our school instruction, the language in which the boy thinks and should by right express his thoughts, is relegated to the worst paid and most incompetent teachers. Not only is the meagre store of knowledge that the boy has acquired through the foreign medium insufficient to give a many-sided interest, not only is he ill-provided with matter for thought, but he is actually deprived of any medium for expression of thought.

The tragedy of it all is that the material to begin with was as good as could be desired; it has been spoilt in the making.

It is only fair to say that in the United Provinces the medium of instruction, outside of actual language-teaching of English, is supposed to be the vernacular, but so deeply rooted is the idea of parents and teachers that a knowledge of English and not a development of mind, is the aim of education, that even very careful inspection does not ensure the observation of the regulations in this matter. It is worth noting that classes in purely vernacular middle schools, although taught by men of inferior academic qualifications, are far superior in intelligence to parallel classes in Anglo-Vernacular schools. Evidence to the contrary may be explained by the prevalent habit of judging a boy's ability by a regard to his proficiency in English, which is naturally inferior in the case of the vernacular-educated boy.

In view of the foregoing it seems that a somewhat new type of universal education is needed, which shall supersede all education at present existing between the higher classes of the primary school and class VIII of the high school. It will include all so-called "middle school" education, and will go considerably beyond it. It will permit of no distinction as between middle vernacular and middle Anglo-vernacular, a distinction which has had the pernicious result of giving a kind of preferential treatment to the town boy, and of putting the vernacular-educated boy at a disadvantage as regards higher education. At present the latter has had a better general education, but can only go into higher education by the round-about method of attending special classes in English, or by being relegated to classes lower than his standard of general knowledge warrants.

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Under our new system, all boys proceeding beyond the primary stage will receive thei instruction in the vernacular, and will get an *equal* chance to learn English as a second language taught by really efficient teachers.

This second stage in our educational system will be the business of the schools which we have agreed to call national schools, for it is at this stage that definite national education, calculated to produce an effective electorate, will be given. The aim of the national school differs from that of the primary school in that its function is to train the future citizen rather than to produce a more enlightened and more business-like agricultural and industrial population. We wish to emphasise the fact that though it will be possible for any boy who so desires to go straight from the practical education of the primary school to the more civic education of the national school, yet the primary school is not to be regarded as merely a feeder to the higher system. It has its own function to perform, and that function is to serve the special needs of the lower classes of the population. If it fails to do this, the foundations of our national system will be laid in sand.

Such is the importance of this national school education, that it must be organised and controlled by the provincial Government. For on the efficiency of this education depends the quality of our electorate, and it is therefore essential that every possible effort shall be made to secure that this education be thoroughly sound and of a uniform standard in every area of the province.

As shown above, a boy of average intelligence will be ready for the National school about the age of 10½. A system of scholarships will provide an opportunity to enter the National school for any boy with brains, however adverse the circumstances of his parents may be. We desire to make it possible for such a boy to pass right up the ladder of National education from its lowest to its highest rung. The school will consist of five classes, IV, V, VI, VII, VIII. Class III of the Primary school and class IV of the National school will be on much the same level, so that an exceptional boy may be able to enter the National school at class V. One test of his fitness for this should be his knowledge of the script of a second vernacular. The test of fitness to enter the national school will depend on the report of the primary school head master, checked by the inspector, and verified by the head master of the national school. A written examination at this stage we consider most undesirable, as a good headmaster will be able to satisfy himself as to the fitness of the boy without any such test. At class IV a second vernacular language will be begun. At class V or VI English will be begun at an elementary stage as a second language, taught by an expert language-teacher. In no class of the national school will English be the medium of instruction. Apart from this vital difference, the curriculum of our present middle schools will, with certain alterations and additions, be retained. These changes will be in the direction of imparting more definite training in citizenship than exists at present.

At the end of class VIII, when our boy of average intelligence has reached the age of 15½, he will enter for the national school leaving examination. This is the first and the main examination in our whole educational system. The standard of it will represent our ideal *educational* qualification for an elector, and for this reason will not be too high. It will roughly constitute the test by which fitness for employment will be judged by the general public. On this examination, scholarships to enable a boy to take up a further course of study will be awarded. At this point the education of the citizen *qua* citizen has been completed. Anyone who has passed the national school leaving examination should, we hope, be qualified to use a vote with discretion. He will have received a tolerably sound general education and be acquainted with the elements of English.

With the national school, then, the education of the majority of our citizens will be ended. It follows that the quality and quantity of this education is of the greatest importance. The national school is, in our opinion, the keystone of the whole system of education. It must, therefore, exactly fill the space between primary and higher education, and it must be of such a constitution that it can withstand their pressure and sustain the whole fabric of national life. It will take the place of the faulty middle school education of the present system, and, in so doing, will perhaps alter the entire political future of India. This is a serious statement, and yet anyone coming from outside after observing the educational system of other lands, cannot but be struck by the weakness of Middle school education in India and its disastrous results. The experienced teacher

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knows only too well that unless the lower middle and upper middle classes of a school are sound, there is a very poor chance of a good output of well-taught young men from the upper classes. The best teaching, the most careful organisation and the greatest judgment are required at this stage. The teacher must cherish the tender growth of the reasoning faculty and provide healthy food for curiosity and imagination. He must judge the exact amount of effort that each pupil can afford. The organisation must be more elaborately economic of time and energy than that of any existing Indian school. In our national schools we hope to produce, with no great increase in effort, an enormous increase in efficiency, and to make our man-power and boy-power turn out maximum work without overstrain. We cannot afford to have ill paid assistant masters making up a living wage by taking private tuitions, and using the time, in which they should be arranging their next day's work, in exhausting their own brains while cramming the brains of others, and wasting whole periods of school time by teaching without preparation. The national school should be what its name indicates—the place of training for a nation; and with this aim in view we should retain in it all that the Indian peoples prize as indigenous and all that they have ambition to adopt. For example, on the one hand, it should preserve that simplicity of life so characteristic of India; on the other, it should foster the *esprit de corps* that makes English schools what they are.

To produce an electorate of any size at all representative there must be a large number of these national schools. There will not be less than one in each tahsil, and in many tahsils and in all cities there will be more than one. As for quality, that will depend upon the teaching staff. It is agreed on all sides that even for the more limited aims of the present system, the existing teachers are altogether inadequate. As in the case of the primary, so in the case of the national school, we must look for the success of our scheme to the proper training of teachers. To take but one example. The greatest change we have made is the provision for the teaching of English as an additional language. Unless those engaged in this work are trained language-teachers, failure is inevitable. The special methods now offered as the solution of the difficulties at present experienced in teaching English, are useless in the hands of men insufficiently trained. The first reform in our educational system must be the provision for the training of teachers of the type required by our national schools, and expenditure upon this must be one of the largest items in our revised budget. Here we think it necessary to say that in our opinion the only hope of getting the type of teacher that we require for our national schools is by sending suitable men not to the universities, but to the teachers' training schools of Great Britain and of the Dominions, and even of America. These men should be either graduates with a sense of educational vocation, or teachers who have already shown real aptitude and enthusiasm in their profession. They would, of course, go as Government servants to such institutions, and would be bound to give their services to education on their return to India, when it would be necessary for them to have a status and receive emoluments commensurate with their rightful position in the community. Such men would be used as principals and teachers in indigenous training colleges for national school teachers; as head masters, and especially as language-teachers, in national schools; and in the national school inspectorate of the Provincial Government. In their training abroad, special facilities should be given them to acquire knowledge of methods of inspection and of hostel administration as well as the more general knowledge of educational methods and ideals.

We have already stated that we contemplate the multiplication of national schools. In order to provide accommodation for boys whose homes are at a distance from these schools we must have hostels. These need not be constructed on the present extravagant lines. Dormitories, which are in our opinion better than the rooms for boys which our present type of hostel demands, and simple accommodation for messes will, in many cases be sufficient; but we aim at securing at least the elements of a corporate life at these schools. It must always be remembered that the national school will be the highest educational stage to which the majority of our boys will attain, and it is all-important to give them therein something of the same atmosphere as is found in the best type of English grammar school. They must derive from the school unconsciously the idea of the social organism and the meaning of corporate life. To this end it is absolutely essential that the headmaster, and at any rate a certain proportion of the teachers, should live on the spot.

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In any case suitable house accommodation must be provided for the type of teachers we have in view; but apart from this it is of the very essence of the scheme that the teachers and especially the headmaster, should live actually on the premises and in the most intimate touch with the boys in the hostel and playing field as well as in the class room.

When we pass from the consideration of the national school the problem becomes somewhat different. Hitherto we have been concerned mainly with the education of the electorate. We have now to provide for the further education of those who will lead or mould public opinion, and also of those who require technical or professional training.

To the boy who proceeds beyond the national school there are several courses open. He may go straight to a technical school. The age at which the boy leaves the national school, *viz.*, 15½ years, is exactly the age at which technical training should be begun, and the general education which he has received is the type of education required as the basis for such training.

These technical schools may be State institutions; but we hope to see here a development in private enterprise. As the need for skilled mechanics and craftsmen becomes urgent, we may suppose that large commercial concerns will establish their own industrial schools to provide them with the class of men they want. A beginning of this kind has already been made at Cawnpore. Again, we hope that Government will see its way to revising its whole system of selection for public employment. Candidates for minor posts such as junior clerkships, might well go on straight from the national school to some kind of institution which will give them the special business training they require. Here too would be a field for private enterprise.

With these, and other similar exceptions, however, we may assume that the majority of boys who desire some education higher than that of the National school will proceed to the next stage of our educational system, *viz.*, the district high school; but they will not be allowed to do this unless they have first been able to pass the national school leaving examination, which will afford a test to judge of their capacity to make a right use of the privileges afforded by a higher type of education. It is very undesirable that any boy should be allowed to stay on at the national school after the age of 18.

CHAPTER IV.

SECONDARY EDUCATION.

The stage following the national school is the education of the district high school. Entrance to this school will depend upon the national school leaving examination. A boy of average intelligence will normally pass this examination at the age of 15½. It is undesirable that in the district schools we should ever have students over the age of 20, and we therefore propose that no boy should be allowed to enter these schools who is more than 17½ years of age. There will be three classes, IX, X, XI, the standard of which, we hope, will range from that of the present tenth class to the intermediate standard of the existing University.

These schools are intended broadly, for two different types of boy. The majority will require an education primarily fitting them for the ordinary business of life. This we will call our general course. Many of these boys will require, in addition, specialised training for business, or for some technical occupation, and for a very few of them, the district high school will be preparatory to some technical institution of university standing to which they will proceed about the age of 18½. For all of this type, we propose to give a standard high school education, supplemented by optional subjects, leading to an English school leaving examination, and aiming at the level of an English public school. An education of this kind is one of the great needs of the present day. Just because it does not exist, our universities are crowded by students who do not really require a university education but are obliged to take up a university course, for which they are unfitted, because no other provision is made for them. The present University fulfils the function of a finishing school; hence its failure to fill its proper place in the education of the country. These district high schools will meet the need of all those boys who require an education which is not of a university type. Our universities will be set free to do their proper

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work, and will be enabled to secure the material they want. To provide that material is the second function of these schools.

Boys who wish to proceed to the University must obviously have a different kind of training from those whose education will terminate at the high school or be continued at a technical institution. This differentiation is a marked characteristic of American, German, and English education, and experience shows that it is justified. From such boys we must demand a different type of preparation and a different criterion of ability, if the present appalling number of failures in the higher examinations is to be reduced. Under our proposed system, we aim at securing a much larger percentage of passes among our matriculation candidates. Again, while English must be the medium of instruction throughout the school, and, therefore, be taught in all classes, these boys will need to spend more time on the study of English literature if they are to be able to follow professorial lectures and to appreciate the literary courses of the University. It is therefore essential that only those who are fitted for a university career shall be encouraged to begin this preparatory course. At the same time we recognise that the University has social as well as intellectual advantages. The analogy of the English universities will make it plain that we should not exclude those who are able to afford a university career and desire to avail themselves of those advantages, merely because their intellectual ability is not of the highest order. We consider that the following system will meet both cases.

The national school leaving examination is to form, as has already been stated, the entrance examination for the district high school. A pass in the first class will entitle a boy to free education in either of the two courses outlined below. The standard of this class will be high. A pass in the second class will entitle a boy to education on payment of half fees in both courses, but we recommend that the fees for the general course be calculated on a scale much lower than those of the university course. These latter might well correspond with the actual *per capita* cost of education. The standard of this second class will be moderate. A pass in the third class will entitle a boy to receive education in either course on payment of full fees. The standard of a third class pass will be low. We calculate that by this scale of fees we shall induce second and third class boys to choose the general rather than the university course, while we shall still, by the remission of fees, be giving ample opportunities to poor, but clever boys to proceed to the University. We are not thereby excluding the rich boy from the university course; he can well afford to pay the fees, and the result will be that, to a certain extent, the richer part of the population will be paying for the poorer, which seems to us an equitable arrangement.*

There will be three classes in the district high school, IX, X, XI. Every boy whether in the general, or in the university preparation course, will study six subjects, *viz.*:—

I. General English.
II. { World history, with special reference to India and the Empire.
{ World geography, with special reference to India.
III. Mathematics.
IV. Nature study and general science.
V. Civics and social science. This will include a certain acquaintance with the elements of social ethics, as well as of hygiene and of administration.
VI. A living vernacular.

This course forms the foundation of the school curriculum. University candidates will, from the very first class, enter upon a more advanced course of study in such subjects of the general course as they intend to pursue when they enter the University itself. For example, corresponding with general English, there will be special English for every university candidate. A boy who contemplates taking history in his university course will study subject II in a more advanced degree. The same applies to mathematics. Corresponding with subject IV in the general course, we shall have special science for the boy who proposes to take up a scientific career in the University. Subject V will naturally form a basis for later university courses in economics and philosophy, although

*Although the boy must decide which course he is to take at the outset of his career in the district school this decision must not be irrevocable. It must be always possible for a head master to transfer boys who develope late, or whose circumstances warrant it, from the general to the university preparation course. A power like this which would enormously enhance the position and responsibility of the head master is on general grounds greatly to be desired.]

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specialisation on these subjects in the district school, even for university candidates, is undesirable. Provision also will be made for those who desire to take classical languages in their university course. We believe that this scheme of preparation for university courses in the district school is attended with great advantages. It will eliminate that haphazard choice of subjects which is at present so grave an obstacle to satisfactory study in the University. From the fact that these boys are still in school, under the control of a head master, who will guide them in their choice of subjects, the dangers of a wrong selection are lessened; and should a wrong selection be made, there will be plenty of time to rectify the mistake before the boy's career is adversely affected.

Again, boys who are taking the general course will be given their choice of three optional subjects for further specialisation—

(*a*) For those few who wish to proceed to technical institutions of university standing a course in special science and higher mathematics will be provided at certain schools.

We should point out that the district high school is not intended to compete with the technical schools. It will merely, in certain cases, provide that practical and general scientific education which is indispensable to those who are to enter a technical institution with the idea of receiving a diploma, which shall imply the standard of a university. Such an education is very different from that of a technical school, which aims at turning out good craftsmen and mechanics rather than experts in the applied sciences. But in any case we realise that for many years to come the numbers requiring special preparation for technical institutions of university standing will be exceedingly small.

(*b*) For those boys who are contemplating a business, or commercial, career there will be special training in such subjects as accountancy, banking, and the elementary principles of contract, combined with such special subjects as shorthand, typewriting, etc. There is a great demand among the business men of India, though not to any extent as yet in the United Provinces, for boys with a sound commercial training, and at present this demand is not being adequately met. The complaint is that the education of our schools is too literary, and not sufficiently practical. We hope by this means to supply that want without sacrificing to practical efficiency that general education which alone can awaken the intellect and broaden the mind. In this connection we wish to point out that there is a real danger even of British Government officials failing to realize that it is not the business of the University to produce an examination which shall be a test of a boy's fitness for Government service. A university provides a matriculation examination for its own purposes, and an examination which serves these purposes, may be, and probably will be, quite unsuitable as a test for Government service in its intermediate grades. We propose that this general course shall be formulated in consultation with Government officials and prominent business men, with a view to meeting their actual needs, and that the English school leaving examination which terminates this course shall be a Government examination, and shall be used by Government as its own examination for entrance into its own subordinate services. This will result in the general course becoming popular, because it is not only cheaper, but also leads to definite possibilities of employment. The result will be that only boys who are fitted and determined to go on to a proper academic course in the University, will enter the university preparation course of the district school, and work for the matriculation examination. We would also advise Government to make an age limit for appointments so as to exclude failed university men.

(*c*) To those who wish to supplement a general education with some special study of the classical languages, and to learn more of the ancient literature of their race, it will be open to take a further course in one or more of these languages. Many parents in comfortable circumstances, who are not attracted by a university education, will welcome, we believe, such a type of optional course for their sons.

Since these schools will be situated at district headquarters it will plainly be necessary that accommodation shall be provided for boys whose homes are at a distance. Here

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will be a magnificent opportunity for the charitable benefactor. There is no reason why hostels should not be connected with religious purposes, or special localities. As in the similar recommendation in regard to the national school, extravagance in building should be avoided. But the very fact that many of the boys attending the school will not be day-scholars gives to the school staff an opportunity of developing, with more reality than has yet been possible, that school spirit, which we can best define as the public-school spirit. This spirit depends upon the staff. It is the masters who must create and maintain it, and the very first step towards achieving it is to place the headmasters and assistant masters in such a financial position as shall command respect. They must be beyond the need of taking private tuitions, or any other outside emolument, and be freed from the suspicion of, as well as from the temptation to, partiality. It is useless to talk of the missionary spirit without attracting the right type of man and giving him a fair social position. The man having been found, it is necessary to introduce him to the spirit of the English school. This can be done in one of two ways. The young teacher must either be placed for a time in a training college, preferably in England or the Dominions, where he can live in the right atmosphere, or else he must be engaged in teaching under a head master of suitable experience and liberal enthusiasm. It would be better still if he could have both experiences. The head mastership of a district school should carry with it all the respect that attaches to a district officer of standing. Although it may be necessary to bring a few men into the country to establish organisation and tone, it is essential that head masters should be Indians, sharing the national aspirations of the students, understanding their attitude of mind, and strong enough, by virtue of position, example, and breadth of learning, to control their establishment and inculcate in their pupils that good judgment and self-control which constitute real manliness.

The particular methods by which good school masters achieve their results in character-formation cannot be definitely laid down. Provide the man and he will find the way.

CHAPTER V.

HIGHER EDUCATION.

We are convinced that it is quite useless to come to a consideration of university education without previously dealing with the problems which arise on the lower rungs of the educational ladder. To do so will lead to irrevocable failure and as a result the last stage of that education would be worse than the first. But having dealt with the lower phases we are now in a position to deal with the University and to suggest the type of university education which, we believe, should replace that which is at present in existence.

After completing his course of preparation in the district school, the boy who is about to enter the University, or a technical institution of university status, will be ready to sit for his entrance examination. For entrance to the University, or the technical institution, there will be no age limit. Every facility will be given to private students to enter for the Matriculation, and for the corresponding examination of the technical institution, but the standard of these examinations will be high. A substantial examination fee will be charged, but in the case of first class passes, this will be remitted entirely, and a 1st class pass will, in addition, carry with it the privilege of free tuition and free hostel accommodation in the university or technical institution. A second class pass will, as in the district school, entitle a student to the privilege of paying half-fees: whereas a 3rd class pass necessitates the payment of full fees, approximating to the actual *per capita* cost of university education. We should also like to see scholarships of greater or lesser value attached to proficiency in particular subjects, or groups of allied subjects. We conceive it necessary, however, to state that a university of a type wholly new to India is required, if the educational system which we have outlined in this report is to receive its fitting culmination.

There are certain political, economic, and social factors which are in the last analysis responsible for the defects in our present university system: but from the point of view of our study, the universities seem to us to have failed from two types of cause:—

(*a*) From the defects of the present school system.

(*b*) From defects in its own organisation.

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We shall briefly examine these two sets of causes, and show how we propose to eliminate them by our scheme.

(*a*) The weakness of our present school system has reacted upon the universities in the following ways:—

(i) Students come to the University who do not require a university education in the strict sense. The demand for an expansion of university education in India arises from the fact that no adequate provision for a sound higher education is made in the school.

The University is regarded popularly as a finishing school. With the establishment of our proposed district schools, this wholesale demand for university education will, to a great extent, lose its justification.

(ii) The inefficient teaching in the schools, especially in the matter of English, has a disastrous effect upon the material supplied to the University.

(A) The students have not sufficient knowledge of English as a language to cope with the university course during their first two years. They are expected to appreciate English as a literature when they have not yet acquired English as a language. As a result the University has to take upon itself, in addition to its legitimate work, much that should have been done in the schools. Hence failure is inevitable all along the line.

(B) The student who comes to the University has, as a rule, no definite intellectual interest. His intelligence has not been aroused, nor has he been taught how to think. This is evident both in the poverty of ideas displayed in original composition, and in the fact that, in the choice of subjects, students are guided, not by inclination, but by the supposition that this or that subject is easier for examination purposes.

Under our new system, both these defects will be remedied.

(1) Students will come to the University with a working knowledge of English of the type specially required, which they will have learnt, we hope, from trained language-teachers.

(2) Their general intelligence will have been stimulated already by their school course, and under the more personal tuition which we hope they will have received in the district school, they will have discovered, as far as possible, at that age, where their mental interests lie. In addition they will find that the present haphazard combination of subjects totally unconnected with one another, will no longer pay.

(iii) Owing to the pressure in our university classes of students unfitted for the university course, we are faced at every stage with a large number of failures. The result is that the second and fourth year classes are swamped by failed students, and the work of the teacher suffers accordingly. Under our new system, these failures will be enormously reduced, because the unfit will be eliminated, before coming to the University.

All these causes can, ultimately, be classed under one head. The functions of the University and of the school have been confused. When once we make up our minds to treat the school as a separate entity, and not merely as a training ground for the University, these causes will become inoperative.

(*b*)—The organisation of the University itself is defective in the following ways:—

(i) Our present universities are universities in name alone. There is no co-ordination of aim and effort between their affiliated colleges. The functions of the University are, in fact, usurped by the colleges, whose individual and competing interests make a sound and consistent university policy impossible. Geographical conditions do not allow of distant colleges being adequately represented upon the university boards, with the result that in practice a few colleges direct, in their own interests, the policy of the entire University.

(ii) As a consequence of this, each college finds itself compelled to teach a number of subjects. It must maintain a staff to provide this teaching. The resources of

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separate colleges can never be equal to the task, but, in the attempt to compass it, they are debarred from that specialisation which they might otherwise have adopted with advantage. The wastage of material and *personnel* thus produced is apparent.

(iii) The only function of the University is at present to prescribe courses and to conduct examinations. There is no uniformity in the teaching of the courses. There is no interchange of teachers; there is no central control of the teaching. In practice a professor may find himself teaching courses which are uncongenial, and the student has to submit to an external examination by an examiner who is unacquainted with his personal record, and may be totally out of sympathy with the system of teaching which has governed his preparation.

(iv) The work of an able teacher is at present confined to the college to which he belongs, instead of being at the disposal of the University as a whole. This has two evil effects; the limitation of the teacher's sphere of influence deadens his enthusiasm and deprives him of the main inducements to undertake higher study; while the student has not the opportunity of attending lectures other than those provided by the slender resources of his own college. The smaller colleges are here at a great disadvantage.

(v) Hitherto the training of university teachers has been utterly neglected. In practice, a man is appointed to the staff of a college on the strength of his academic career. Owing to the conditions of pay, we do not in India get the best Indians for educational work, nor do we provide any teaching for those whom we put upon the staff of our colleges. Individual professors may undertake this work of training their assistants, and in some cases do, but there is no obligation making them responsible for the efficiency of the junior members of their staff.

All these causes, again, can be classed under a single head. The functions of the University and of the college have been confused. When the college ceases to be considered as an isolated unit, and becomes an integral part of the University, these causes, too, will become inoperative. This is the change which we conceive will result from the introduction of the system which we here outline.

The ideal is undoubtedly to have a "unitary" university in each chief centre of population. In the future we shall see a number of universities in Northern India each so situated. We conceive that in the United Provinces the following will, for the present, suffice, namely, Allahabad, Lucknow, Agra, Aligarh, and Benares. These universities should be—

(i) *Centralised*, and no colleges should be affiliated to them which are situated outside the town in which they are established. Facilities can easily be devised for students whose houses are at a distance. The railways should issue educational passes for those who live within comparatively easy reach of the University, and hostel accommodation should be made cheap and adequate. Communities and localities should be invited to erect hostels for the benefit of students particularly connected with them, and we believe that this invitation will meet with a ready response.

(ii) *Organised in departments.* By this we avoid duplication of staff and of material, and waste of energy; by this we obtain uniformity of aim and correlation of effort throughout the teaching of the entire University. Each department is confined to its own subject, organises the teaching of that subject, and holds its own examination. At the head of the department is the university professor of the subject; he is the convener and executive officer of the Board of Studies in that subject: with him both in the department and in the board are joined as many associate professors as are necessary for the working of the department; these associate professors have assistant professors, lecturers and tutors to help them in carrying on the teaching and tutorial work.

The present collegiate system, with its duplication of machinery, its wastefulness, and its anomalies will thus gradually disappear, as it is already disappearing in other countries, before the growing demand for efficiency and economy. The colleges will become ultimately residential institutions wherein the students may be provided with tutorial assist-

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ance, and all those amenities which the corporate life implies. The status of the colleges will not hereby be lowered. They will discharge functions of the most essential importance in securing that atmosphere of social and moral discipline upon which the value of a university career so largely depends. They will exercise a prodigious influence upon the lives of the students. Neither the traditions of the college nor the interests of the staff will suffer; for each college will have the right of supplying so many teachers to the university staff as may be settled by agreement between the University and the college authorities. Teachers thus acquiring university status will receive additional remuneration from university funds. For some account of the relations between the college and the University, and the adjustment of the varied interests at stake—financial, sectarian, political—see below.

Constitution of the University.—The controlling bodies of the University will be as follows:—

A.—The Council, with its executive committee the Board of Management, will control university business of a non-academic character and deal with finance.

B.—The Senate, with its executive committee, the Syndicate, will control university business of an academic character, and adjust the work of the departments.

It seems to us that there are two distinct functions to be performed by the governing body of a university, and that the same men cannot efficiently perform both these functions. An eminent lawyer, a commercial magnate, or an executive officer in the public service may be qualified to deliberate upon and determine the general policy of the University; they are certainly the right persons to deal with all questions of finance. But the pressure of other duties upon their time prevents them from giving due attention to academic details; they should leave all questions of educational administration, the setting of courses, appointment of teachers,—all matters, in short, that are purely academic—to those who are engaged in the actual work of education, the academic staff of the University. We are convinced that mischievous results invariably follow when these two functions are confused; time is wasted in debate and other issues become involved in questions that are properly educational or administrative.

The necessity of this division of functions has been already recognised, and has been provided for in the charters of the new universities in England. We should propose to constitute our Indian university on the following lines. The head and chief officer of the University should be the chancellor, as at present the head of the province; in his absence, the vice-chancellor would exercise all the functions of the chancellor, except the hearing of appeals and those other powers which now vest in the chancellor alone. The vice-chancellor should be a salaried officer of the University and devote his whole time to the duties of his office. He will preside over the meetings of the Council and of the Senate. These bodies will respectively perform those functions which we have defined above. He will also be chairman of the Board of Management and of the Syndicate. He will possess a limited power of veto so that, if need be, he can hold up a doubtful decision of the Senate until he has referred it to the Council, and render inoperative a doubtful resolution of the Board of Management until he has referred it to the Syndicate.

A.—The Council of the University will consist of two classes of members.

(i) *Members* ex-officio.—These will be the deans of the faculties, heads of the departments, and principals of colleges.

(ii) *Nominated members.*—It is extremely desirable to attract to the Council the leading business men in the area of the University. At the same time it is also important that the members of the Council should have the welfare of the University at heart. These ends will best be secured if financial support to the funds of the University be made the basis of the scheme of nomination. Nominations to the Council, accordingly, will be vested in patrons of the University, whether individuals or corporations, official or nonofficial, according to the proportion which the income derived from their several benefactions bears to the total income of the University from external sources. In determining for this purpose the total income of the University from such sources, we shall exclude items such as fees, book-sales, and interest from invested balances. For example, if a benefactor A has contributed a sum of money producing an income

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equivalent to 2 per cent. of the total university income from external sources, he will have the right to nominate 2 per cent. of the members of the Council. In a similar way, if the provincial Government contributes 20 per cent. of the total university income from external sources, it will have the right to nominate one-fifth of the members of the Council. This scheme, which seems to us the most equitable, has recently been adopted in this country by the Benares University, and has long been the common practice in America.

The Council will elect the Board of Management from its own members, by secret ballot, the vice-chancellor and the chancellor being *ex-officio* upon this Board, which will consist of not less than five and not more than ten.

B.—The Senate will consist of two classes of members.

(i) *Members* ex-officio.—These will be deans of the faculties, heads of the departments, associate professors, and principals of colleges.

(ii) *Co-opted members.*—Such other persons engaged in the teaching work of the University as may be co-opted.

The Syndicate will be elected by secret ballot from the members of the Senate, the chancellor and vice-chancellor being *ex-officio* members, and will consist of not less than five and not more than ten..

Such is, in outline, the constitution which commends itself to us, as most likely to meet local needs and to satisfy popular demands, without sacrifice of those ideals of pure learning and of disinterested research which every university worth the name must ever hold up before its members.

Finance.—The policy of the Government of India should be to use such funds as it may be able to command, in order to stimulate local interest and activity in raising funds for the local university. The funds of the University will be drawn from sources of two classes—

(i) Internal sources.

(ii) External sources.

(i) Internal sources will consist of lecture fees; examination fees; income from invested savings and benefactions and endowments.

(ii) External sources will consist of grants from municipalities and local bodies; block grants from the provincial Government and block grants from the Government of India.

We recommend that the Government of India should undertake to provide an annual grant equal to not more than half the annual income from benefactions and endowments *plus* grants from municipalities and local bodies, provided always that this annual grant shall not exceed the grant made by the provincial Government. There would be nothing to prevent the provincial Government increasing its grant to any extent: but this would not secure any increase of the Government of India grant, which would depend solely upon the income from private benefactions and local bodies. Funds donated or bequeathed to the University for specified purposes would, if the purposes were approved, be included in reckoning the amount to be given by the Government of India.

The whole of the income from all of the above-mentioned sources would be paid into a consolidated fund, administered by the Council through the Board of Management, subject to the veto of the Chancellor. A full statement of accounts would be submitted annually to the Government of India and to the Provincial Government.

Control.—A university which is under popular control through its Council is liable to become lax on the question of standard in its examinations. Pressure is brought to bear upon examiners through the public press when a large proportion of failures arouses public resentment; and the teaching also tends to suffer from an endeavour to fulfil too many demands with limited resources. The reality is sacrificed to appearance and the University degenerates. To prevent this some external influence is necessary. At the same time the external authority exercising this influence should not press too hardly upon the University or it will stunt its natural growth. Each university will have its local needs and should develope upon its own lines; it should be free to try experiments such as its environment suggests to those who direct its policy. We cannot, therefore, have any continuous control of the local universities by the central Government, for this would

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result in the establishment of that mechanical and deadening uniformity which our changes are designed to eliminate. We shall secure all the control that is needed by the following plan :—

A special office with the Government of India should be created with the title of the Bureau of University Education, to deal with all questions that concern the universities. At the head of this bureau should be an officer of high educational qualifications and wide experience, called the Universities Commissioner with the Government of India. The functions of the Bureau will be :—

(i) To advise the Government of India on the establishment of new universities and the granting of their charters.
(ii) To receive and record the annual reports and other statements from the universities. The Board of Management and the Syndicate of each university should for this purpose transmit to the Universities Commissioner the reports of their meetings.
(iii) To collect and disseminate all information about universities and higher education in general in India and other countries, and to communicate with other similar bureaus throughout the world.

The Universities Commissioner will be the medium of communication between the universities, through the vice-chancellors, and the Education Member. One of his most important duties will be the arrangements for the inspection of the universities, since this inspection is the instrument upon which we rely for the maintenance of the standard of university education throughout the country. We propose to adopt the system used by the British Treasury for inspecting universities and colleges that receive its grants. That is to say, a special committee will be appointed to inspect each university. Normally, these inspections will take place every five years, but it will always be possible for the Universities Commissioner to order an interim inspection, if he deems this to be necessary. The Inspecting Committee will be appointed by him : it will consist ordinarily of one distinguished educationist from over-seas, nominated by the India Office, and not more than four other members nominated by the Commissioner from among eminent educationists in India. In practice the over-seas member would serve upon several successive committees during one cold weather, so that the expense of his visit may not fall too heavily upon any one university. When the Universities Commissioner receives the report of this committee, he will forward it, with any comments he may think necessary, to the Chancellor and Vice-Chancellor of the University concerned. They in turn will communicate its purport and recommendations to their Board of Management and Syndicate. If in the judgment of the Universities Commissioner, the action taken upon the report by the University is insufficient, then he will make a representation to the Chancellor, backed up by the threat of the withdrawal of the Government of India grant, and ultimately, in case of persistent contumacy, of the forfeiture of the charter. The continuance of the Government of India grant depends, in fact, upon the favourable report of the Inspection Committee. If a university objects to this quinquennial inspection, it is open to it to dispense with the Government of India grant, but even in this case the Government of India reserves to itself the right to appoint a special commission with the object of satisfying itself that the Charter of the University is not being abused. The charter of every university will contain a clause providing for this contingency.

College and University.—It is not to be imagined that the majority of the existing colleges will welcome a change in university organisation such as has been outlined above. Under any scheme of this kind, the college *qua* college would lose control of several functions, of right pertaining to the University, which it at present fulfils. Moreover, many isolated colleges, situated in the mofussil, would necessarily lose their status as university institutions, and find themselves obliged to devote their energies to such ends as their limited resources can adequately compass. In most cases, we imagine, isloated colleges of insufficient importance to become the nuclei of universities would become either district high schools of our new type, or institutions where special training, technical, commercial, or professional, could be given to those boys who have completed their school education.

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Where we have colleges of long-standing and considerable importance, proud of their social and intellectual traditions, grouped into a centre, and fit to play a large part in the life of the new university, the circumstances will be somewhat different. Here there can be no question of the disappearance of the colleges. We are only concerned to see that they do not continue to usurp those functions which are more particularly the functions of the University. This end will be secured by the departmental system: and in order that the traditions of the colleges and the interests of the staff shall not suffer, we propose that in each locality the relations between the old college and the new university organisations shall be adjusted by a small commission, containing representatives of the various interests involved appointed *ad hoc* by the Universities Commissioner. As a possible method of avoiding a clash of interests we recommend that a definite treaty be formulated between the University and the authorities of each college, providing that the staff of that college will have the right to expect a definite number of university posts, conditionally upon the University having a right, on its side, to guide the college's selection of men for such billets upon the college staff as are generally associated with University teaching posts. We believe that this process of adjustment will be facilitated by two considerations. In the first place, the existence of the Universities Commissioner will imply an arbiter concerning whose impartiality there can be little question; and in the second place, the university authorities, from the moment of the inception of the new system, will be drawn very largely from the existing college authorities. Every indication leads us to hope that the colleges will find themselves, without sacrifice of anything that is really essential to their corporate existence, able to take their rightful place in a scheme which promises so much not only for the higher education of the country at large, but also for their own truest interest. In this process of adjustment, no preference will be given to Government colleges. They will be incorporated in the university; and the members of the staff, should they be selected by the University, will become University servants. The Education Department will, in future, play no part in university education.

CHAPTER VI.

SOME PRACTICAL CONSIDERATIONS.

1.—*Notes on the Primary school.*

A.—The Staff.—Our ideal staff for the average primary school is three teachers and a head master for a school of about one hundred boys; and we should insist on the head master being specially engaged in the teaching and supervision of the very difficult preparatory classes, as well as of class III. The type of teacher we contemplate in our primary schools should be paid a salary starting at not less than Rs. 20 per month in rural schools, and not less than Rs. 25 a month in town schools, rising, respectively, to Rs. 45 and Rs. 50. These salaries will be supplemented for the time being in the case of the head master, by some system of "payment by results," as we have already suggested.

B.—The Half-time system.—Our evidence clearly shows that the large majority of parents, primary school teachers, inspectors, and boys, prefer the whole-time school. On the other hand, practically all these are at present members of the higher castes. We have some evidence that a half-time system may possibly enable the poorer members of the cultivating castes to avail themselves of educational opportunities which they would otherwise miss. The spread of education among these classes is, politically, of primary importance; and inspectors and head masters should be impressed with the need for it. If they cannot get these poorer boys to come to the school in any other way, they should experiment on the half-time school, either seasonally or locally.

C.—Curriculum.—The teaching in the primary schools is not at present sufficiently related to the needs of the village. This is due, on the one hand, to the imperfect training of the teachers, and, on the other, to absurd defects in the curriculum and in the books prescribed. We would again emphasise the fact that the principal task of the village school is to teach boys those particular methods of business which they will have to employ in after-life when they find themselves face to face with the bania and the patwari. As one example out of many, an arithmetic-book which deals with interest reckoned per

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cent. instead of by pies to the rupee, and by the year and not by the month, and in its examples neglects all reference to fields and crops, is obviously unsuitable.

D.—Inspectorate.—We have already said in the main body of the report, that primary education requires a complete inspectorate of its own. We consider it necessary here to state that this inspectorate must undergo costly training, and will receive salaries far in excess of the present figure.

E.—Post-primary extension courses.—It may well be that the Agricultural Department, in conjunction with the Bureau of Education, of which we speak below, will arrange for village lectures which will be of the nature of post-primary extension courses, for imparting instruction with a view to improving agricultural methods or awakening interest in other matters that concern the community. Such lectures will be designed for adults rather than school boys, but by means of them it may be that many who do not proceed beyond the primary stage of the school will be prevented from forgetting, as the majority of them do now, the knowledge acquired at school.

F.—Buildings.—The pre-war price of the Government standard school in Cawnpore district was Rs. 2,195, in addition to cartage of materials, which, in the same district, was upwards of Rs. 700. In this locality, a thoroughly satisfactory school has been built for about Rs. 900. The remedy is obvious.

2.—*Notes on the National school.*

A.—Expansion.—In the time, and with the data, at our disposal, we can do little more than hazard a guess at the expansion which will be necessary in the intermediate stage of education, called above the national school. Working upon the basis of the figures relating to the present system of secondary education, graphical calculation enables us to suggest that something like a ten-fold expansion in numbers is required if our national schools are to turn out an annual stream of potential electors sufficient to maintain our electorate at the necessary figure. It must not, however, be assumed that this ten-fold expansion in numbers requires a ten-fold expansion in accommodation. Without a detailed survey of the accommodation at present provided for the various types of middle school, it is impossible to state with precision what expansion of school buildings will be necessary. Moreover, many of the buildings now used as high schools will be available as national schools, which will greatly assist in providing the necessary accommodation, in towns at least. It is certain, however, that a relatively enormous increase will be necessary in respect of buildings suitable for teachers' quarters.

B.—Training of teachers.—When we consider the type of man at present engaged in teaching middle classes throughout the existing system, it becomes plain that if the improvements we have suggested are to be carried out along the lines laid down, we must be prepared to employ teachers costing from four to eight times as much as they do at present. Moreover, as we have said in the body of the report, the training of these teachers will cost a sum of money out of all proportion to that which is now expended upon the training of the present type of man.

C.—Staff.—We suggest that the national school shall normally be staffed as follows :—

A head master, and at least eight assistant masters, to teach the following subjects : English : classics : vernaculars : history and geography : civics : nature study : mathematics : and drawing.

This arrangement contemplates only single classes. If double classes come into existence, as they may well do, an increase in the staff will be required.

D.—School gardens and playing fields.—It is essential that the national school should have an adequate school garden and adequate playing fields. We regard it as extremely desirable that the hostel, the garden, the playing fields and the teachers' quarters should all be in the same compound.

[In the main body of the report we have laid stress upon the necessity for hostels on the dormitory plan.]

3.—*Notes on the district school.*

A.—Expansion.—It seems to us that in the existing high schools, and disfranchised university colleges, there will be ample accommodation for our district school education. Indeed, as we have said above, it will be possible to use a certain number of these high

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schools, which will not be needed for the district school, for the purposes of national school education. We do not think it would be difficult to transform outlying portions of the existing high school buildings into hostel accommodation and teachers' quarters.

B.—Staff.—A staff consisting of a head-master and ten assistant masters will be required for each district school. We do not propose that the pay-scale should be greater than in the case of the national school. The cost of the staff is estimated at not more than Rs. 2,000 per month.

4.—Notes on the University.

A.—Buildings.—In places like Allahabad, Agra, and Lucknow, existing buildings are adequate for a beginning. The first need of university education in India is men. If a strong teaching staff could be gathered together, and a real university spirit produced, before long awakening local interests will come to the assistance of the new movement and the money for buildings will be found.

B.—Sabbatical year.—The American institution known as the Sabbatical year should be introduced into Indian universities. During one year in every seven, each member of the higher teaching staff should be allowed study-leave on full pay subject to certain specified conditions of travel and residence.

5.—The Bureau of Education.

We have already mentioned the Bureau of University Education which we hope to see established under the Universities Commissioner. We consider that provincial bureaus of education should be created, to deal with secondary, intermediate, and primary education. These should prove useful in collecting and disseminating information of importance to educationists: they should be in close touch with education at home, in the Dominions, and in other parts of the world, through their connection with the existing Bureau of Education at Simla, the functions of which should, in our opinion, be widely extended.

The officers in charge of these provincial bureaus should collect and publish information about educational facilities in the provinces for the benefit of the general public. Through the Press, they should stimulate interest in educational development and generally perform the functions of a publicity department. As scholastic opportunities are extended by the scholarship system, it will be necessary that parents should have some agency to which they can turn for information. To the teaching profession, also, these Bureaus should prove useful in many ways. Information of posts vacant and of salaries offered would be widely disseminated, the functions of the bureaus being in this respect similar to those of the universities appointments committees in England, and of the various scholastic agencies which exist to procure employment for teachers.

In addition to these functions, the bureaus should also perform the work of university and school extension delegacies. They should arrange for lectures of popular nature in schools and at educational centres. They should also loan apparatus for demonstration, and circulate among schools and colleges information as to the apparatus thus available and as to the lectures provided.

Again, teachers requiring information about new methods, new books, and new appliances, would find full particulars at the offices of the Provincial Bureau. Show-rooms would be provided where publishers could display their latest books and appliances without the need of costly advertisement and the dissemination of specimen copies.

The Bureau might also become the centre of an annual conference of school teachers—an institution which is necessary if teaching methods are to be kept up to date. The teachers would meet for discussion, attend lectures by educational experts, and inspect the apparatus exhibited by the officials of the Bureau. At the same time, the needs of the teachers could be made known by the Bureau to the firms specialising in educational apparatus.

Attached to the Provincial Bureau there should be a printing press, specially devoted to the production of works approved for publication by the various universities of the Province, and to the printing of text-books recommended for use in the schools. All the printing and publishing work, in fact, which the universities now have to put out to private firms, should be done by the press attached to the Bureau of Education.

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The existing university system is deficient in five principal respects:—

(*a*) It is economically wasteful, on account of its failure to utilise the available teaching resources in an efficient manner. Not only is the work of an able teacher at present confined to the college to which he belongs, instead of being at the disposal of the University as a whole: but, in addition, many college professors are teaching the same subject in different colleges at the same time. There is thus small opportunity for specialisation and much waste of energy.

Nor is this all. The squandering of material resources, in the unnecessary multiplication of libraries and of laboratories, is appalling to contemplate. Instead of there being half a dozen first class university libraries and a similar number of really good laboratory centres, there are many dozen worthless libraries and inefficient laboratories. This is a direct result of a system under which colleges, with their slender resources and overburdened staff, attempt to perform the work of universities. Such an attempt is necessarily foredoomed to failure: but so long as the colleges are, as at present, subject to no efficient and compulsory co-ordination of their activities by the universities, they will continue along the same disastrous lines.

(*b*) The colleges, dominated by individual and competing interests, are far too strong as compared with the universities. The affiliating system has driven the universities into the position of judges and arbiters between the colleges. The universities must prescribe curricula and conduct examinations. Of the deadening effect of these "external" curricula and "external" examinations upon teachers and students alike, it is hardly necessary to enlarge: it is perhaps sufficient here to say that their worst result has been the apotheosis of the examination and of the text-book, with the accompanying degradation of study and class work alike. No weight can be attached to the student's record, for there are no provisions for an impartial investigation thereof. The student can be judged only by his written work in the examination. Naturally, therefore, he memorises his text-book to ensure a pass, and has no incentive to do anything else. But the point to note here is this: the University has practically no control over the teaching, and absolutely no control over the appointment, pay, and working conditions of the teacher. What is the consequence? The University, in its feebleness, is compelled to prescribe such curricula and conduct such examinations *as are within the capacity of the weakest college.*

(*c*) Since the existence of multitudinous college staffs working upon the same lines makes specialisation almost impossible, college professors have neither opportunity nor inducement to undertake higher study. The effects upon the educational service have been most sinister, and afford the principal justification for many of the charges so commonly made against it.

Upon the students, too, the consequences are distressing. How can one or two professors, able and hardworking though they may be, give their students the same teaching as a properly organised staff of specialists? Instead of sitting at the feet of a number of experts, each thoroughly acquainted with a particular branch of knowledge, the Indian student has to content himself with the lectures of two of three unfortunate professors, who have to cover so much ground that they cannot possibly attain to a standard of even moderate efficiency in every direction. And yet the capacity for specialisation and the taste for it are *there*. Organise these scattered teachers into a centralised department: divide up the subject among them so that each is responsible for a single division of his particular branch of knowledge: and without engaging an extra professor, an efficient teaching instrument will be produced.

(*d*) It often happens that graduates are recruited for even the lower ranks of Government service. The universities therefore are crowded with men who have no interest in learning, but desire only to collect additional qualifications for

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Government service with the least possible effort. Many of them are quite unfitted for admission to a university at all: and they present a formidable obstacle to any reform of the existing system.

(*e*) At the present time the majority of students come to the University too young, very ill prepared to profit by the teaching. This is largely a consequence of (*d*).

2. Such being the defects of the existing system, it is plain that a change has become necessary. There seems little doubt as to the direction in which this change must take place. The real difficulty, as will afterwards become apparent, lies in determining the practical steps necessary for bringing it about.

3. What India requires is a system of centralised universities, framed upon the model now favoured by expert opinion both in Europe and America. These centralised universities will be organised in *departments*, not in *colleges*. The difference is vital. Departmental organisation means that the entire bulk of the teaching resources of the University can be utilised in the most efficient manner possible: it means increased specialisation, more research work, incomparably better teaching with the accompanying effects of greater enthusiasm and deeper culture on the part of staff and students alike. The present collegiate system, with its duplication of machinery, its wastefulness, its anomalies, ought gradually to disappear in India, as it is already disappearing in other countries, before the growing demand for efficiency and economy. The affiliated colleges, as they exist at present, must at length be overshadowed by the University, until they become residential institutions, wherein the students may be provided with recreation, moral supervision, and tutorial assistance.

4. This is not to say that the status of the colleges will be lowered. They will discharge functions of the utmost importance in providing that atmosphere of social and moral discipline upon which the value of a university career so largely depended. They will exercise a prodigious influence upon the lives of the students. Nor will the interests of the staffs suffer. Each college will have the right of supplying so many teachers to the university staff as may be settled by agreement between the University and the college authorities, and teachers thus receiving university status will secure additional remuneration from university funds.

5. There would be a clear distinction in title between the University and the college officials, although many university officials would live in colleges and discharge college tutorial functions side by side with professorial university functions. This distinction in title would work out somewhat as follows:—

A. *University Officials.*

Chancellor, vice-chancellor, members of the academic council, fellows.

Professors.—Heads of departments, chairmen *ex-officio* and executive officers of their particular boards of studies.

Associate professors.—Members of the departments: subject to the general direction of the professors at the head of the particular department to which they belong, but independent of them, and responsible to the board of studies so far as the details of their work are concerned.

Assistant Professors.—Members of the departments subordinate to the associate professors, and responsible to them.

Readers.—Distinguished persons specially selected by the University to lecture upon certain topics: persons taken from college staffs to deliver particular lectures or courses of lectures: globe-trotting super-professors: Government officials and others with practical experience of such matters as land revenue, co-operative banks, agricultural education and the like. They would be independent of departmental organisation, but would perform an invaluable function in keeping the University in close touch both with the scholarship and the affairs of the outside world.

Demonstrators and research scholars.—Students selected to assist in the work of the departments while pursuing their own course of study.

B. *College officials.*

Principals or wardens.—Organisers and directors of the corporate life of the college.

Tutors. } Giving to the students in residence assistance in their work,
Assistant tutors. } and co-operating closely with the university teachers.

Such, it may be hoped, will be the ultimate classification of the University and college teaching officials of this country. But in view of the terminology which at present exists, the titles "University Professor," "University Associate Professor." "University Assistant Professor," and so forth will be employed throughout the remaining portion of this minute to distinguish university officials from college officials.

6. A glance at the exsting system clearly shows that the present universities are phantoms apart from the colleges of which they are composed. The colleges are powerful, separatist in their instincts, and autonomous: the universities are inchoate and relatively powerless. Hence the first step must plainly be to take the control of teaching out of the hands of the colleges and give it to the universities. Until this is done, the teaching cannot be properly organised, and the defects noticed in paragraphs (*a*), (*b*), (*c*) (*d*) (*e*) above will persist.

7. From the point of view of centralising the teaching under the control of the universities, there are four main sets of conditions at present existing, which must be noted separately:—

(*i*) Groups of colleges which are centred round an existing university, and lie close enough together to make reciprocity of lectures, etc., practicable.

(*ii*) Groups of colleges similarly close together, lying round a centre where a university does not at present exist.

(*iii*) Isolated colleges of sufficient importance to constitute a potential university.

(*iv*) Isolated colleges of insufficient importance to constitute a potential university

As examples of class (*i*) may be instanced the conditions existing in Calcutta, Bombay, Madras, Lahore, and, to a lesser degree, in Allahabad.

Examples of class (*ii*) conditions are to be found in Nagpur, Lucknow, Agra, and numerous other places.

Along with class (*iii*) may be reckoned the conditions which obtain in Aligarh and Dacca, Rangoon and Benares.

Examples of class (*iv*) are unfortunately too numerous to require indication.

In the United Provinces, a particularly glaring example is to be found in the case of Meerut. Such colleges might, however, become excellent extension schools—see paragraph 19 below—and have a most important function to perform in a revised scheme of university organisation.

8. Let us first outline a possible method of procedure in the case of the conditions classed as (*i*). Here there exists, generally speaking, a sufficient supply of excellent teaching ability, but this is largely offset by the jealousies and competing interest of the various colleges—Government, non-Government, protestant missionary of various sects, catholic missionary, nationalist, theosophical, and so forth. Plainly, it is only by giving a preponderating authority to the University that these various separatist interests can be induced to pool their resources and place the sum total of their teaching ability at the service of the total student community of the locality. And the only method which will yield satisfactory results seems to be the organisation of this teaching ability into departments under university control.

The method of procedure must be somewhat as follows.

The University authorities, having made up their minds as to the departments—mathematics, history, economics, chemistry, and so forth—corresponding to available teaching resources, should appoint for each department a university professor who is to be departmental head and *ex-officio* Chairman of his particular board of studies.

In the selection, attention should be paid not merely to academic eminence, but also to organising capacity. As a matter of policy, it will probably be desirable that the University should ordinarily select a member of the educational service who has had some years' experience of Indian conditions and apply to Government for the transfer of his

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services. By such transfer Government would be providing without extra expense, the larger proportion of the endowments of a certain number of university chairs. The difference in income between the position of the selected official in the Indian educational service and his new position as a university professor, would be defrayed from university funds. The entire object, however, might be achieved by the transfer from the Indian educational service to the establishment of the University of the selection posts suggested by the Public Services Commission, if and when constituted. Failing a suitable candidate from the Indian educational service, an Indian or European educationalist of high qualifications must be sought outside the ranks of the Indian educational service. But in any case the appointment, which should normally be for a term of years, subject to the pleasure of the Chancellor, should carry with it remuneration upon a scale which would make it an object of ambition to all college teachers of the highest ability.

9. The primary duties of the university professor will be to organie the work of his department throughout the University: to secure the most economical application of the total teaching ability available in his subject by dividing up the work and encouraging specialisation: to stimulate the interests of staff and students by delivering special courses of lectures: to recommend distinguished persons as suitable recipients of university Readerships: to supervise and co-ordinate the various examinations in his subject: to act as chairman and executive officer of his board of studies, with a view to maintaining consistency of policy and a high standard of efficiency. His secondary duties will include the undertaking of research work on his own account, and the supervision of the training of advanced students in such work.

10. The university authorities, in consultation with the university professors, must now proceed to appoint associate university professors from the college staffs, due care being taken in the first instance to conciliate the separate inclinations of the colleges by representing particular interests, religious and others; and by coming to a definite agreement with the staff of each college as to the number of university posts which that staff will have a right to expect, conditionally upon the university authorities having a right, on their side, to guide the college's selection of men for billets on the college staff in the first instance, and for posts in the University. The associate university professors will be responsible for teaching the various divisions of the subjects dealt with by the particular departments to which they belong. They also should be in receipt of additional remuneration from university funds, which will make an associate university professorship an object of ambition to the members of the college staffs. As a recognised stepping stone to the associate university professorships, the university authorities should also select promising junior members of the college staffs as assistant university professors, who would be subordinate to the associate university professors and would assist in the teaching of particular sub-divisions of the departmental subject. For the encouragement of learning among the students, the University should offer every year certain demonstratorships and research studentships, which would afford opportunities to advanced pupils not merely to continue their studies, but also to take an active, if minor, part in the teaching work of the Department.

11. As a practical example of the organisation of a department the following may perhaps serve. The instance chosen is that of history. The staff would be somewhat as follows.

> At the head of the Department would come the university professor of history, a specialist in some line of study, but primarily concerned with organisation. Next would come associate university professors, each responsible for the teaching of some division—ancient Indian history: Islamic history: Mediæval European history: modern European history and so forth. To each associate university professor there might be assigned, if the importance of his work required it, one or more assistant university professors, who would aid him in dealing with the sub-divisions of his subject. Assigned to particular branches of study, there would be demonstrators and research scholars, as explained above.

The immediate result would be that students reading History would have the advantage of being taught by specialists: educationalists not on the staff of the department

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would be encouraged to undertake higher study by the hope of being selected by the University: and the whole history teaching throughout the University would gain infinitely by organisation and unity of direction.

12. It is however, of the utmost importance that all the university work should be done in one centre. As part of its contribution to the revised scheme of university organisation, Government might hand over the local Government college as a nucleus of that centre. Both in Calcutta and Bombay, where the Government College is so close to the existing university buildings, this plan would be particularly easy of operation. If the university teaching is not concentrated within a radius of a few hundred yards, and students are compelled to run about from place to place, many of the benefits of the departmental system will be lost. In the case of agriculture, engineering, medicine, and certain other subjects of a technical nature, the students of which are necessarily cut off from general university studies, no harm will be done if the teaching is concentrated in places at a distance from the centre of general university instruction, should such a place prove more convenient.

13. The university professor at the head of each department, together with the associate and assistant university professors, will constitute the board of studies of that department. The boards of studies, subject to the general control of the faculties to which they belong, and of the executive officials of the University will direct the teaching and the study of their particular subjects throughout the University. At the beginning, while the organising process is in a state of transition, it may not be found possible to include within the appropriate university departments all those engaged in teaching throughout the colleges. It may, therefore, occasionally be necessary for public authority to assist the boards of studies in imposing their will upon the various college staffs, in the event of serious differences of opinion between the university and the college authorities. But if the selection of associate and assistant university professors is carried out with a due regard to the representation of separate interests, these differences of opinion should be of rare occurrence.

14. Having thus brought the teaching-work of the University under the direction of the university officers by means of this departmental organisation, the next stage towards the construction of a centralised university must be the gradual transformation of the colleges from separate, self-contained units, into institutions which, however strong their moral, and perhaps their religious, influence may be over their students, will on their teaching side be entirely subject to university control. This must necessarily be a slow process, hampered by the conflict of many interests and open to much misrepresentation on the part of persons and institutions conceiving their welfare to be affected. But when once the teaching has been organised and centralised under university direction, it will probably be seen that this final stage of subordinating the teaching functions of the college to the University while allowing it entire freedom to stress its social and moral functions, is easier and more practicable than can readily be conceived at the present time.

15. In consequence of this change, there will in the last resort be no "college officials" in the present sense, engaged in university work. There will be college officials engaged in college work of the nature already explained. There will be staffs of university officials, graded hierarchies, in which the prospect of promotion and the certainty that advanced work will be recognised at its true value, will play a most salutary part in encouraging efficiency. Each grade of university office will carry a recognised salary strengthened by a government guarantee, as in the case of Germany. This salary will be paid wholly by the University, in the case of an official not in the Indian educational service and not upon the staff of an aided college: partly by the University and partly by Government in the case of an Indian educational service official: partly by the University and partly by the aided college in the case of an official taken from the staff of such a college.

16. Where the present circumstances of college situation fall under head (*ii*) (see above), the immediate procedure will have to be slightly different from that already outlined. It should have as its aim the ultimate constitution of these groups of colleges into centralised departmental universities. As an intermediate stage, it might be possible for the existing university authorities to constitute members of the staffs of these colleges as associate and assistant university professors in various departments, under the direction of the central university professors, whose business it would be to supervise the work

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of these "subordinate centres" until such time as new universities could be constituted therein. In this way an existing university like Allahabad would gradually fall into a main centre, Allahabad itself, where would be the headquarters of the various university departments, and a number of "subordinate centres" such as Lucknow and Agra and Benares, which would be linked to Allahabad by the supervising activities of the university professors until such time as they were ready to form independent centralised universities of their own. It is desirable that, subject to due supervision, they should be allowed to conduct their own examinations and devise their own courses, the central University accepting their certificates as evidence of satisfactory study and examination, and granting degrees on the strength of them.

17. In the case of circumstances of type (*iii*) the procedure would be extremely simple, and would follow the main lines laid down in paragraphs 8 and 9 but would be free from all the difficulties incidental to the jealously guarded independence of separate colleges. To turn Aligarh, Dacca or Rangoon into a centralised departmental university along such lines would present few difficulties so far as administrative machinery is concerned.

18. It seems unquestionable that the centralised departmental university should be started first of all under conditions of types (*i*) and (*iii*).

19. The college of type (*iv*) is at present a grave difficulty: but I am convinced that through its agency the whole process of university reform outlined above may be brought speedily within the range of possibility.

20. In paragraph 1 (*d*) and (*e*) two serious defects in the existing university system have been noticed. These would be obviated if students who desired to enter the lower ranks of Government service were educated with a special view to that end after the school leaving examination, instead of being encouraged to enter the University. Again, under the operation of any scheme of university reform which had for its object the creation of centralised, departmental universities, boys living in the mufassal, outside the large centres, would be largely deprived of the chance of entering Government service unless special provision were made for them *apart from the University organisation.* These boys must be given their chance: but unless they have a real aptitude for university career, they had better not go to the University. One is therefore driven to put forward some such scheme as this:—

(A) By making use of College of the type *iv* as "extension schools" and by adding special extension classes to the top of the existing high schools, Government might well divert the stream of boys who at present only enter the universities to obtain a passport to the lower ranks of Government service. Between the ages of sixteen and eighteen, a boy would be prepared *either* for entering the lower ranks of Government service *or* for entering the University, *in each case without leaving his district town.* By this means, the age of admission to the new universities might be raised to the present intermediate stage without inflicting any hardship, and without in any way stifling the ambitions of the poorer students. The gain in efficiency both to Government service and to the universities would be immense.

(B) A liberal scholarship system would enable boys living in the mufassal, who are plainly of the type to profit by a university training, to come to the new centralised universities.

(C) The B.A. course of the new universities might then well be made a three years' course: and the M.A. might take the form of a specialised research course. This would be possible because the students of the new universities would, by the plan outlined above, be those boys who possessed strongly marked aptitudes for a university career. They would not be "watered down" as at present by masses of boys who cared for the University not at all, but looked upon it as a tiresome essential to obtaining a small post in Government service.

21. The most essential thing to any scheme of reform in the direction of a more satisfactory university system, is *speedy action.* Colleges are growing up on every side like mushrooms, and the evil effects of the existing plan, enumerated in paragraph 1 above are becoming daily more pronounced. Every month of delay makes action more difficult, just as it makes the necessity for action more peremptory. The traditions and the separatist tendencies of the colleges are already a serious difficulty in the way of the only reform

which can be effectual—radical reform along such lines as those herein outlined. In a few years' time, not only will the colleges have stifled the universities, but they will have fortified themselves with vested interests too strong for Government to meddle with.

At the present time, it is not too late. Action can still be taken with every prospect of success. But how much longer the conditions of successful action will endure, no man can say. Reform, radical and immediate, is the only course possible if the future of India is to escape deadly peril.

WOOD, The Hon'ble MR. W. H. H. ARDEN.

1. Would not the present situation be relieved by the following:—

(*a*) The establishment of a teaching university consisting of the strongest Calcutta colleges (University of Calcutta).

(*b*) The concurrent establishment of an entirely separate examining university (using the word "examining" in a wide sense) to which the weaker Calcutta colleges and the majority of the mufassal colleges would be affiliated? This university might be called the University of Bengal.

There might also be other teaching unversities, *e.g.*, at Dacca.

Is it not necessary to reduce the pressure of present numbers in the colleges in order that it may be possible for the professors to have an adequate knowledge of the students as individuals?

The ways of doing this are:—

(i) More colleges.
(ii) More professors.
(iii) Fewer students.

Is it not worth while to consider if the schools should not retain their pupils until they have passed the intermediate examination, as is the case with schools affiliated to the University of London? The adoption of this suggestion might make it easier to deal with certain other problems that have arisen, *e.g.*, teaching in the vernacular; the housing of students in Calcutta; the problem of the "failed" candidate; etc. It would also set the university professorial staff free from much work that is purely school work. The schools would, of course, have to be strengthened as regards staff, buildings, and equipment. But it would be a great advantage to strengthen education in local centres in this way. It would have an effect reaching beyond the mere establishment of new classes in the schools.

Why not make both the matriculation and intermediate examinations school examinations of the kind lately recommended for secondary schools by the Board of Education in England, and have them conducted by a special examinations board? The examinations recommended are an examination in the subjects of a general education, suitable for pupils of the average age of about sixteen (lower certificate examination); and an examination (higher certificate examination) to be taken eighteen months or two years later, of a kind that would allow of some specialisation, with safeguards against a too narrow specialisation. This examination need not be an examination merely testing fitness for further work of university type; it should examine pupils not proceeding to the University in a course of a partially vocational character.

School pupils who had passed the higher certificate examination in an approved selection of subjects might be allowed, on payment of a fee to the University, to join a university college, in order to prepare for a degree.

In any case, could not something be done to increase the efficiency of the University as an examining body as indicated below:—

(1) By laying down principles *ad hoc* for the guidance of those who set the papers.
(2) By giving more credit to examinees for intelligent work, and less credit for unintelligent memorising.

(3) By circulating to teachers reports upon the results of the examinations, in which defects in methods of teaching and study revealed by the examination would be pointed out and discussed.

WORDSWORTH, The Hon'ble Mr. W. C.

The difficulties under which university education in Bengal labours include the following :—

(*a*) The territorial jurisdiction of the Calcutta University transcends the provincial limits. The controlling authority is the Government of India. The Local Government, having little direct share in its control, has been debarred from that direct influence in higher education that it might otherwise have exercised and has consequently been accused of indifference to its welfare. This has reacted on the prestige of all Government officials engaged in educational work : it has weakened the position of Government officials in the Senate, Syndicate and other bodies of the University; in particular it has made difficult the position of inspectors of schools, whose recommendations when they inspect schools on behalf of the University sometimes appear to receive scant courtesy from the Syndicate and the schools. The University has no agency of its own for the control and improvement of school education, and the existing misunderstandings, due in part to imperfect regulations, represent a loss of efficiency.

(*b*) The University does not command complete confidence. The suspicion has found expression that examinerships are not invariably given for reasons of competence, but sometimes also for more personal reasons. There is also a suspicion, also sometimes vocal, that the published results of examinations are not invariably in accord with the work done. This suspicion is due in part to the system of grace marks formulated in the regulations, partly to the readiness of examiners' meetings to attend to complaints or representations from individual candidates, and generally to show indulgence. I have known it accepted by an examiners' meeting as the point of procedure for compiling the B. A. pass list that at least 66 per cent. of the candidates should be passed in each paper.

As a corollary confidence in the degrees has diminished, and they are widely regarded as of little value except for teaching purposes; and even in the Education Department Government regards Rs. 35 per month as suitable pay for a B. A. on his first appointment to a teacher's post, though the work offers promotion by time scale up to Rs. 300 for the head master of a zilla school, and Rs. 500 for the head master of a collegiate school. Non-Government schools generally consider from Rs. 35 to Rs. 60, adequate pay for such qualifications at any stage of experience, except that head masters usually receive from Rs. 60 to Rs. 100.

(*c*) The poor education given in schools is a drag on the work done in colleges, just as the poor work done in colleges means inefficient teaching in schools. Few schools owe their origin to anything but the need of preparing boys for the matriculation examination; their work is limited to this, and their only pride is in examination successes. Some schools are organised so efficiently for this purpose as to deserve high praise; but even the best do nothing more, sending their pupils to the University with nothing better than the matriculation equipment. This equipment does not mean fitness for university studies and the first two years of college life are a struggle to learn through continued school work what university work and scholarship mean. Where no failure intervenes, the bachelor's degree is taken after four years; the mental equipment, and the prospects in life, that this indicates are a meagre result of four years' effort and expense. The student who would do well must continue his studies for the master's degree, usually combining with them his law studies. This imposes a great strain on his physique and nerves, as lectures are compulsory in both cases; his ability to concentrate, and his scholarship, are impaired. If he

WORDSWORTH, The Hon'ble Mr. W. C.—*contd.*

takes only a third class master's degree the university, though classing him as a master of his subject, refuses to regard him as competent to teach in a college and consequently most other possible employers refuse to regard him as competent. In another year he completes his law studies and looks about for a career or a practice. It is not clear under what regulations this custom of combining law studies with M. A. studies has grown up; the student so engaged is in effect a student of two colleges at once, a situation that can cause serious difficulties in organisation and disciplinary control. The arrangement is not permitted, or at least not existent, among students of medicine and engineering. The reason for it is found in the consciousness that, the stress of life being very great among the educated classes of Bengal, a student must neglect no means of adding to his chances.

(*d*) The work imposed on the University is too great for any one institution. In 1917, the number of candidates for Matriculation was about 17,000; that the machinery for the examination failed is scarcely a matter for surprise. In other years, when there has been no manifest disaster, those responsible for the work have not been free from uneasiness: examiners, *e.g.*, are so numerous that it is difficult to work to time-table in the publication of results, or to secure a satisfactory level of marking. Further the preparation of the list of candidates also takes time: so pupils who finish their school education in December sit for Matriculation in March, and if successful join a college in July. In 1917, they joined colleges only in November, having wasted the months, January—October. Similarly with college students: their names must be submitted to the University some weeks before the examinations, and after the date of submission they are free from control, their attendance at college cannot be insisted on, their admission to the examinations can scarcely be cancelled whatever their subsequent behaviour. All this tends to reduce the place of the school and college in the university organisation. They are frankly regarded as institutions subordinate to the University, existing only for the University. Other regulations confirm this point of view: the work imposed on the University is such that it must treat its colleges and schools merely as elements in an organisation. This is carried even to the extent of not allowing them full disciplinary powers over their own students.

(*e*) It follows from the above that there is, or appears to be, a tendency in university policy to regard all colleges as of the same degree of untrustworthiness. Certainly it has long been a cardinal belief among the staff of the Presidency College that there is in university policy a tendency to diminish the prestige, importance and efficiency of the college in the interests of easy administration. I may instance recent inspection reports, in which after a few hours' inspection the inspectors attacked the carefully considered policy of the governing body in the matter of numbers and of the combinations of subjects permitted; in one of which also they attacked by name, as not fitted for his position, a gentleman of considerable academic distinction and experience, whom one of the inspectors had himself recommended in the highest terms. Other colleges possibly hold a similar belief. If it is of the essence of education that the pursuit of knowledge should be connected with the acquisition of moral and practical capacities, this can be best secured by increasing, not diminishing, the importance of the school and college. The University should be an organisation in the background, remote from the student, who in all things should feel himself a part of his own institution. As matters are, no inconsiderable proportion of students regard their principal as a post-boy who will carry their requests to the registrar of the University.

(*f*) The University is in organisation an affiliating university, reserving an indefinite power of making arrangements for university teaching. On this basis a large teaching organisation has been built up. The present system of post-graduate teaching is an attempt to meet a definite present need by co-ordinating the resources of the colleges and the University. There are, however, indications that the welfare of the colleges will not receive

WORDSWORTH, The Hon'ble Mr. W. C.—*contd.*

the first consideration; teachers have been attracted from college work into the direct service of the University, and so the work of the colleges is depreciated. I incline to the view that under the present organisation of the University the two aspects of an affiliating university and a teaching university cannot be satisfactorily combined.

(*g*) The present political ferment in India is disturbing to education, and tends to diminish the efficiency of educational work in this respect at least, that the European teacher and administrator is frequently looked at askance, as if he were engaged in serving other interests than the welfare of the people he works among. This attitude has received high sanction in certain recently created trusts which definitely exclude Europeans from participation in the higher teaching of science and in the opportunities for research that these trusts provide. It also manifests itself in minor ways, *e.g.*, in elections to the Syndicate, etc.; recently, the Faculty of Arts did not elect the principal of the Presidency College to the Syndicate, but elected an Indian member of that college staff. Generally it results in the European feeling himself thrown on the defensive instead of readily welcomed as a colleague in the work. Many frankly endorse the policy that the European should disappear from educational work in India as soon as possible, but it is essential to the welfare of education in India that so long as Europeans are engaged in it that they should be encouraged to give their best.

(*h*) The present procedure for the recognition of schools is not in my opinion conducive to their best interests. The Department of Education maintains certain schools, and aids others. The University, which neither maintains nor aids, has the full control of all school education through the power of recognition. A school requires nothing except permission to present its pupils for the Matriculation. For this purpose, it must be inspected and reported on, as a matter of convenience usually by the divisional inspector of schools, who is an officer of the Education Department, not of the University; he is permitted by Government as a matter of courtesy and convenience to give of his time and energy to this work, which lies outside his regular duties; his travelling expenses are paid by Government. His report and recommendations are considered and forwarded to the University by the Director with his comments. It is usually the case that of all who consider the school's application the inspector alone has seen the school: yet, it is by no means the rule that his recommendation is accepted, even when wholly endorsed by the Director. Cases are not unknown in which recognition has been granted despite the Inspector's and Director's emphatic advice, or in which recognition, once granted temporarily on condition of certain improvements, has been continued without further reference to the Inspector; and cases have been recently brought to the notice of the Syndicate where schools, formally deprived of recognition, have still been permitted to present their pupils for the Matriculation. The present situation is one that depreciates the value and prestige of the Inspector; he is obviously in a difficult position in relation to a school that has managed to secure recognition against his deliberate judgment, and his position is made worse by a practice that has grown up in certain parts of the province: a school after inspection frequently sends a deputation of its committee to Calcutta to canvass the Syndicate and traverse the Inspector's report. This practice is not discouraged by all members of the Syndicate and engenders the idea that the position of the University is that of mediator between the inspectors and the schools. Reference to the proceedings of the debate in the Bengal Legislative Council of 4th September, 1917 may be of interest. The Inspectors are consequently impeded in their efforts to improve schools to that minimum of efficiency which the University itself lays down.

In part inspectors themselves have been responsible for this position, as reports on schools have frequently been drawn up in language so vague as to furnish neither schools nor University with clear guidance. I have seen reports close with the recommendation that "recognition should be withheld until the teaching improved." In part an unsatisfactory standard of correspondence by both University and inspectors

WORDSWORTH, The Hon'ble Mr. W. C.—*contd.*

is responsible. But the chief difficulty is that the regulations of the University are not satisfactory. They demand as conditions of recognition, certain standards of accommodation, light, air, financial stability, etc., which are not defined. Further the regulations are in practice departed from. They contemplate recognition without qualification: in practice there has grown up a system of provisional or temporary recognition, as a method of nursing schools to efficiency. But as the main, probably the only, reason why a school desires recognition is that it may present its pupils for the matriculation examination, and as this privilege is granted by temporary recognition, and as temporary recognition may be renewed year after year, the promotion of efficiency is not necessarily secured by this means. We thus arrive at the peculiar position that a school which the Syndicate itself considers not fit to prepare pupils for the Matriculation is permitted to do so, and schools that know themselves to be below standard apply for provisional recognition.

Any reconstruction of our organisation for higher education should in my opinion include the following:—

(i) The removal of all school work from the control of the University: the establishment of a school leaving examination, which should be an entrance qualification to the University: and the acceptance of the principle that the essential qualification for admission to a university is not examination certificates, but evidence of a certain standard of intellectual equipment.

(ii) The establishment of smaller universities of different types according to circumstances.

(iii) The encouragement of the college ideal in each of these universities, and the abandonment of all competition between a university as a teaching organisation and any colleges that it controls through affiliation.

(iv) Recognition of the necessity of good school education and undergraduate education as a preliminary to advanced work, and of the desirability of allotting the bulk of available resources to the two former.

Schools should educate pupils up to the age of seventeen or eighteen, and should send them out with an equipment, both intellectual and practical, superior to that indicated by the present Matriculation. If the necessity of preparing all pupils for one examination were removed, schools could set themselves to discover, about the age of 15, a pupil's tastes and abilities and to develope them. If it were recognised that a certain standard of equipment would in itself secure admission to a university something would have been done towards this end, and if the leaving examination were well organised something more would have been done towards it. The recent regulations for the Cambridge higher leaving certificate would appear to indicate the best kind of examination for the purpose: an examination combining concentration on one group of studies with one or more subsidiary subjects representing more general study. Such a certificate would probably ensure that a pupil who does not proceed to the University it fitted to earn his living, and that a pupil who does proceed to the University is fitted to follow university studies. In the present system the Matriculation ensures neither. Many boys are fitted to take it a year or two years before they reach the age. They are kept recapitulating until school becomes wearisome and the intellect deadened. No teacher takes them aside, as a teacher would do in England, and introduces them to something in advance of their syllabus, to trigonometry or analytical geometry or well-written history or more difficult classical books. A pupil is throughout a member of a large class and nothing more.

After a school education of this kind three years would be sufficient for a bachelor's degree. Here again specialisation might advantageously be combined with more general work—one special group with, say, two subsidiary papers. The present system of three equally important subjects imposes an undue strain on the student, though the strain could be lessened by a revision of the curricula, *e.g.*, in history and philosophy. I further consider that the pass degree and the honours degree should be far different in requirements and value, the honours degree becoming the degree *par excellence*. The master's degree could be obtained in two ways. Those who have obtained a first or second in honours might sit for an examination after one year's more study; this would meet the case of those who intend to take to teaching for a profession or have a real interest in scholarship. Others might obtain it on payment of fees after keeping their names on the books for three years.

WORDSWORTH, The Hon'ble Mr. W. C.—*contd.*

Between entry to the University and the bachelors' examination there could be one examination at the end of the first year, and only in English (a vernacular for those who do not choose English as their medium of study) and elementary logic. This year might be put in in colleges or in certain selected schools fitted for the purpose, students in the latter case proceeding to college for two years if they have passed the examination, for three years otherwise. This would assist in some degree to relax the pressure on accommodation in colleges. I recommend it for no other reason.

Recent events, and a general survey of the situation, suggest that the direction of higher education in Bengal is too complex for the machinery of any one university. The present universty is in effect two : a teaching university for post-graduate studies and for some undergraduate studies also, and an affiliating university. A wider-reaching partition of responsibility appears to be called for. There is in my opinion room in Bengal for at least three universities : one in Calcutta, one controlling affiliated colleges from Calcutta or some other convenient centre, one at Dacca, controlling either the colleges at Dacca or the colleges of Eastern Bengal.

I would here urge the desirability of giving the Presidency College an independent position. I would gladly see it given the status of a teaching university, with its own degree-giving powers. When its expansion scheme is carried out it will be well-equipped in buildings : it has good laboratories and libraries, a strong staff, which would presumably be made stronger; good traditions and prestige. Its numbers are now about 750 undergraduates and about 250 post-graduates. These numbers are the result of limitation : the pressure for admission is very great. With its equipment, a thousand students, and the resources now spent on it a university could be instituted that would be of great value to the province by setting a high standard of work, and by so arranging curricula and methods as to train and teach. The staff could form two faculties, which could be real faculties, controlling and stimulating the work. The organisation might be a chancellor (The Governor of the province), a pro-chancellor elected to preside at meetings in the absence of the chancellor, a vice-chancellor (the principal) who would be the chief executive officer, a Legislative court on which outside bodies and old students were represented, an executive senate, and an academic council, both reporting where necessary to the court, and the council supervising the standards of examination and the boards of studies. Law might be introduced as an academic subject, not as a definite entrance to the profession; for this special arrangements would have to be made, preferably by a council for legal education.

An alternative organisation which might in the opinion of many be adopted with great advantage to the province, is a university comprising the Government colleges in Calcutta, *viz.*, the Presidency, Sanskrit (both arts and *Tol* Departments), Medical, Sibpur Civil Engineering, Bethune, Arabic Department of the Madrassah. This would give an organisation with arts, science, medical, oriental, and engineering faculties, unless it were considered that the Sibpur Civil Engineering College should be developed rather as a professional school than as a university college. Whether the organisation suggested would commend itself to the authorities of those colleges I am not in a position to say, but either organisation would commend itself to the staff of the Presidency College. Nor do I see any considerable objection to either proposal from a political standpoint. The problem is to improve higher education, and any means to this end is likely to be welcomed by the general public. Either organisation would be a logical complement to the arrangement under which Government maintains certain schools and colleges by way of setting a standard of work and organisation. The objections that can be urged against organising a university as a state university lose much of their force when that university is only one of two or more universities; it would if well administered lead to improvement elsewhere in virtue of the principle of competition and emulation, the want of which is at present greatly felt. It may be remembered in this connection that in spite of the frequent attacks upon Government institutions and Government officials in the Education Department, the pressure for admission to Government schools and colleges is perhaps greater than for admission elsewhere, and I think that there would be the same eagerness to profit by facilities offered in a state university. The possible argument that either organisation would tend to enfeeble what was left indicates a real difficulty, but if a state university succeeds its success would tend to stimulate and strengthen all else, and if either organisation

offers a prospect of release from the influences that now depress higher education the step would be justified.

I am not sufficiently acquainted with the resources of Dacca to venture an opinion whether the suggested Dacca University should embrace all the colleges of Eastern Bengal or only those of Dacca town.

No university in Bengal should, in my opinion, have territorial jurisdiction beyond Bengal. Any university in Bengal should have as chancellor the Governor of the province, and as vice-chancellor a paid official, giving his whole time to the work—an educationist preferably.

I do not favour the proposal to construct a new university *en bloc* in any one spot outside Calcutta. This would divorce higher education from local connections, which in the main give it life and provide its resources. If colleges were developed in district headquarters and other suitable places, local interest and enthusiasm would be maintained, and resources, endowments, etc., would more readily be forthcoming. In course of time with the development of collegiate education each division might have its university. The suggestion that the Presidency College should be organised as a university has reference to its resources and traditions. The same privilege would reasonably be granted at any time to any other college that could satisfy the ultimate controlling authority of its ability to maintain the position.

Oral Evidence.

BANERJEA, J. R.

28th February 1918.

New hostel at the Vidyasagar College.—The new hostel is a great addition to the college. The Government of India gave about Rs. 2,50,000 towards the hostel, and the college authorities Rs. 15,000. A large common room for the college has been constructed in the hostel.

2. *School education.*—The education given in schools is deficient. The teaching of English requires to be much improved. The witness suggested that text-books in English be prescribed for the matriculation examination and that teachers use the conversational method of teaching that subject. He also thought that greater wisdom might be shown in setting the examination papers. The history of England, without a knowledge of which college students cannot understand English literature, and geography should be made compulsory for the matriculation examination. The witness admitted that the salaries of school masters were very low, but felt that so long as teachers were willing to accept such salaries, no drastic alteration in the scale of remuneration was called for. School masters eke out a living by giving private tuition; otherwise, they could not live. Good graduates will not in any case, under existing conditions, become school-masters, because they lose thereby in dignity. The witness had not himself been a school-master. There should be a different attitude on the part both of the Government and of the University towards school education. Government should help schools more liberally with grants and the University should have an improved curriculum for the matriculation examination.

3. *Organisation of schools.*—The Syndicate's control over schools is statutory and advisable. Much improvement has been effected in schools by the action taken by the Syndicate. This control should continue to be exercised in the future by the Syndicate of the University.

4. *Future development of the Vidyasagar College.*—The witness urged the development of higher commercial, industrial and agricultural work under the University. He admitted that such development would be costly, and that the Vidyasagar College would be unable to make any contribution. The necessary expansion of library and laboratories for higher commercial, industrial and agricultural work is beyond the resources of the college. For teaching up to the standards to which it is affiliated it has got a good library and good laboratories. The previous Indian Universities Commission spoke of the library of this college as one of the five best college libraries in connection with the

Calcutta University. Considerable improvement in the college library has been effected in recent years. Much more class-room accommodation and facilities for recreation are essential. The Vidyasagar College has had a brilliant record in the athletic department in football and cricket. This college during recent years has not received much, if any, financial assistance from the public. The witness did not anticipate any such assistance in the future. It has received grants from Government, however, without which the college would perhaps have collapsed. If a private college cannot make necessary improvements from its fee income or does not get Government or public help for this purpose, it should be abolished.

5. *Place of a college in the university system of the future.*—The colleges should continue to conduct the teaching, but with certain improvements. The libraries and the staffs should be enlarged whenever necessary. The character of the students should be moulded on right lines. For this purpose there should be lectures on moral subjects and a greater contact between students and teachers. Too much tutorial work, however, is apt to be harmful to the students. Honours students do not require much tutorial guidance.

6. *Honours teaching.*—The honours course should be separate from the pass course. The honours students should attend more lectures than the pass students. Without this assistance from lectures they will not be able to go through the whole course intelligently. The witness was opposed to the withdrawal of affiliation in honours from the colleges, and the concentration of honours teaching under the control of the University. The interests of the students will be better served by the colleges than by the University. A student's connection with a college is of great benefit to him. The withdrawal of honours students would be detrimental to the interests of the colleges. Honours students play a big part in the life of the colleges, the maintenance of clubs, societies, etc., and other students by coming in contact with them are greatly benefited.

BANERJEA, THE Hon'ble Mr. SURENDRANATH.

28th May 1918.

Industrial and commercial training.—The witness agreed that Bengal, by reason of its intellectual and economic interests, needs opportunities of education far more extensive and more valuable than exists at present, especially in those kinds of training and of scientific investigation which will develope the natural resources of the country. Among the young men in Bengal there is a disposition to look forward to a career in commerce and industry or some form of science applied to the development of material prosperity. The witness wished the University to give practical scientific training of an advanced type in technology; and also in agriculture. He hoped that facilities for the practical side of this training would be available to the University; Government, being a large employer of labour and possessing large workshops should be able to assist. It is also necessary that the schools should improve their teaching of geography and train the pupils' powers of observation. Manual training should also be developed.

2. *Remuneration of school teachers.*—The salaries of teachers, and especially those in the primary schools, are very inadequate. The witness knew of many men, inspired by patriotism and devotion to service, who were teaching at a purely nominal salary. He instanced the professors at the Fergusson College, Poona.

3. *The Teaching in schools.*—The witness had been a teacher for many years. His experience was that the students of to-day are not as proficient in English as their predecessors; a considerable number being unable to follow their lectures which are delivered in English. This deterioration, which has taken place during the last fifteen years, is due largely to the abolition of text-books in English, an increasing weakness in the methods of teaching, and the neglect of English history.

4. *The Teaching in the junior college classes.*—The witness agreed that many boys, between the ages of sixteen and eighteen required, in addition to a literary training, an introduction to more practical subjects. There should be a greater variety of treatment in the intermediate course. The two junior college classes were, in reality, engaged in

pre-university work. A large number of students leave college at the intermediate stage. The witness saw no objection to forming a separate institution out of the two junior college classes and the two senior school classes. At the Ripon College, for example, there might be three departments as follows:—

(*a*) The school.
(*b*) An institution for boys between the ages of fourteen and eighteen.
(*c*) The college proper.

Many of the colleges were now dependent upon the fees of students in the junior classes. Public opinion in Bengal would be adverse to any change which in any way interfered with the authority of the University over the intermediate classes. Neither should the recognition of schools be withdrawn from the University which has a good influence on secondary education.

5. *Collegiate teaching and finance.*—Many improvements were necessary in the colleges, especially if big departures were to be made in the provision of training in agriculture, technology and commerce. It is difficult, however, to see whence the funds are to come. The bulk of the people being very poor, it would not be advisable to raise the scale of fees. The non-Government colleges would not be able to find the additional resources necessary to provide the more varied, the more intensive and the more thorough education which is needed. The municipalities are not in a position to offer much, if any, assistance. The witness suggested that money might be forthcoming from the religious and charitable endowments whose original object was to promote education. The wealth of these endowments might be appropriated for educational purposes. Government, however, hesitates to interfere in a matter which bears a religious character. Again, if a real stimulus were given to the university teaching and especially on the practical, scientific and industrial aspects, private benefactions might be forthcoming. In regard to State aid, the witness thought that it should not be accompanied by irksome conditions, but should be combined with liberty of action.

6. *The government of the University.*—The witness saw no objection to an increase in the number of fellows nor to the creation of a small executive body, provided that it carried out the instructions of the enlarged Senate or Court. The policy of the University should be determined by the latter body—the supreme authority in all matters. The witness felt that more authority in academic matters should be given to the teachers of the University. In financial matters he would utilise the services of men of business.

7. *Position of teachers.*—The witness thought that nobody should be appointed a recognised teacher of the University or college who was not employed on an agreement giving him a specified tenure of office and a specified remuneration. The agreement should be reciprocal, binding both the teacher and the college.

8. *The mufassal colleges.*—There would be tremendous indignation among the people at any attempt to cut off mufassal colleges from the University of Calcutta and place them under some other authority. The witness advocated a system by which, under the name of the University of Calcutta, there should be, on the one hand, freedom for varied development in the mufassal centres, and, on the other hand, a great freedom for continued development in many directions in Calcutta. If in the future a mufassal centre made great progress, he would not object to the creation of a new university there.

9. *Inter-collegiate lectures.*—Some years ago the La Martiniere and the Doveton organised a system of inter-collegiate lectures; but it failed. The witness was of opinion that in view of the distances, the difficulty of arranging the routine and other matters, such a system would be impracticable and it would tend to weaken and emasculate the colleges.

BARROW, J. R.

22nd February 1918.

The position of colleges.—The present college system is not well adapted to Indian conditions. An Indian college is only a faint copy of a college in England. It does not

BARROW, J. R.—*contd*

discharge the proper functions of a college such as the provision of suitable residence, recreation and tutorial guidance for students. Assuming a teaching university in Calcutta, it would be well if colleges were gradually superseded by a different type of institution, aiming not at the provision of lectures and laboratories, but only of suitable residence and tutorial guidance. For the present the existing colleges might help the University by supplementing its teaching, mainly in pass courses, if these survived. They would be gradually superseded by the University in the matter of teaching, and by the tutorial hostels in the matter of residence. A college teacher should receive a licence from the University to teach, and his lectures should be open to all university students. If the number of lectures were reduced, the distance between colleges would not make it difficult for students to attend any lecture they wished. The college teachers would be eligible for university posts. The college staffs would also give their students tutorial guidance. No exception should be made in the case of the Presidency College, whose whole resources should be handed over to the University.

2. *Presidency University.*—The witness was not in favour of the scheme. There might be undue competition between the universities.

3. *Mufassal colleges.*—Any attempt at reform must begin with a resolute effort to reduce the numbers in colleges by eliminating all or most of the pass students. The majority of mufassal colleges would be better employed in giving a suitable and good school education than, as now, an indifferent college education. The majority of students now attending the colleges would also be better advised to receive such school instruction. The education of the pass B. A. has been a failure from the point of view of efficiency. It would be better for Government to recruit its subordinates from those who have received a good school education at about the age of eighteen, than from those who had received a bad school supplemented by a bad college education. University education should therefore be confined as far as possible to students of the honours type. Only those mufassal colleges which attracted a good number of honours students and were sufficiently equipped to impart such instruction should remain as colleges. The rest should be turned into schools or institutions offering some special professional training.

The witness thought that the number of mufassal colleges would then be small. He saw difficulties in attaching them to the University of Calcutta. He thought it possible that these difficulties might be overcome, but had not thought about the matter and therefore did not wish to express a definite opinion.

4. *Chittagong.*—The witness was principal of Chittagong College. He is now acting principal of Presidency College, Calcutta. He was very doubtful as to the prospects of the former. The number of honours students at Chittagong is small. Chittagong, moreover, is not popular with the members of the college staff who often desire transfers to other places. This may be due to the desire to be moved to Calcutta.

5. *Dacca.*—The witness has acted as principal of Dacca College for a short time. He was opposed to the constitution of separate colleges in the new university unless colleges could be established with all their students living in the college hostels. He thought that the musalmans would lose by having a separate college, as students gain by intimate contact with their teachers and other students. If Dacca is to make provision for students from outside, it should do so by means of hostels and not of colleges since it is probable that colleges will only be partially residential. The musalmans are usually less advanced than the Hindu students, but not to such an extent that separate treatment will be necessary. Extra tutorial assistance could be given to Muslim students in their hostels.

6. *Courses.*—The matriculation examination is unsatisfactory because it is expected to serve a number of functions. The enormous number of first-division students prevents a satisfactory sorting out of students into pass and honours. The pass and honours courses should be much more distinct than they are at present. The clever boy rarely gets the chances that he ought to have.

7. *Medium of instruction.*—The use of the English medium does not improve the knowledge of English and also hampers a students' progress in other subjects. The vernacular medium therefore should be used until the matriculation stage.

BRÜHL, Dr. P. J.

6th March 1918.

The Syndicate.—The meetings of the Syndicate are held usually on Fridays. The witness thought that most members of the Syndicate spend at least 2½ to 4 hours a week in attending Syndicate meetings. Meetings of the Syndicate are sometimes adjourned. Recently there were four meetings within ten days. The decision on difficult questions is often postponed from week to week. Postponed business is not taken by rule at the beginning of the meeting. Under the present system it is not possible for members to receive a complete agenda paper before the meeting. The volume of work carried out by the Syndicate is so great that the witness would not consider it likely to get a busy commercial man to become a member of the Syndicate. Another result of the immense volume of work is that there is no body of people within the University which concentrates its attention solely on question of broad policy. The witness suggested that some of the business now conducted by the Syndicate might be distributed among boards possessing executive powers.

2. *The Senate.*—The witness considered it necessary to retain the Senate or some such body as a final court of appeal which should sanction any big departure in policy.

3. *Boards.*—The witness held that much of the business now carried out by the Senate and the Syndicate might conveniently be distributed among boards with executive powers. He referred to the residence and transfer committees and suggested similar committees for the recognition of schools and for dealing with applications for admission to colleges and university examinations. Existing committees in the majority of cases are sub-committees of the Syndicate and their decisions are subject to the sanction of the Syndicate. More responsibility again might be given to the registrar.

4. *Hours of work.*—The registrar is usually in office from 10 A.M. to 7 in the evening. He observes practically no holidays. When the examination pressure was at its height, he was unable to attend to the ordinary routine work as much as was desirable. Great arrears of work were therefore inevitable In times of great urgency, some relief to the office might be gained by the employment of temporary clerks. The examination work, however, is very confidential and can only be entrusted to men who can be relied upon. Temporary clerks again are not really efficient.

5. *Devolution of the registrar's duties.*—The school work might be given to an assistant registrar, but such an officer would have to be present at syndicate meetings, when such matters were being considered. The administration of the teaching work of the University has already been taken away from the registrar. Before the new post-graduate scheme was organised, the registrar had to do the routine work of the principal of a college. Devolution of power, however, is very difficult to put into practice in India.

6. *Office arrangements.*—The rooms of the university buildings are arranged in a very unsatisfactory manner. The office is very accessible to the public and should be shut off. More accommodation is necessary. Verbal enquiries are attended to, in the first instance, by one of the assistants in the office. Verbal replies are in most cases sufficient considering the usual scope of the inquiry. There is no properly trained record keeper. In consequence, there is often considerable delay in getting papers put up.

7. *Conduct of examinations.*—No candidate is admitted to the examination room after half an hour from the beginning of the examination, and no candidate may leave before that time except in case of serious illness. Invigilators in Calcutta receive one rupee eight annas a day, but those in the mufassal receive no remuneration. The witness thought that it is very desirable to have the names and not the roll numbers written in the answer books. It is not correct that the examiners are biased.

8. *Scrutiny of marks.*—The witness did not object to the practice of scrutinising the marks of students. Mistakes are sometimes made. There has sometimes been delay in conducting the scrutiny. This is due to the fact that some examiners do not return the papers, and few return them in numerical order. The scrutinisers also are sometimes dilatory. The scrutiny should be done in the office.

9. *Conduct of matriculation examination.*—The registrar sends to the schools the forms of application for admission to the matriculation examination. The date when such applications should be received is notified. The schools forward the applications and the fees. Private candidates submit applications through the inspectors of schools. The latest date for receiving applications is about the middle of January. Acknowledgment of fees received is sent to the schools and inspectors. The University arranges where candidates shall sit for the examination. The admission cards with the roll numbers and names of students are sent to schools and inspectors. The dates of the commencement of the examinations are notified in Government gazettes and are entered on the admission cards. The time-tables are sent to all examination centres. Changes in these respects are also notified in prominent newspapers. The schools take the responsibility of delivering the cards to the candidates. The results of the examination are published in the *Gazette* usually in the beginning of June. The candidates are not informed individually. A student can apply for a "cross" list which will tell him the subjects in which he has failed. The same procedure is adopted in all examinations. "Cross" lists are sent to colleges and schools.

10. *Appointment of examiners.*—Invitations are sent to principals of colleges and fellows of the University to recommend suitable examiners. These recommendations and lists of individual applicants for examinerships are printed, and are circulated to the members of the boards of studies. The boards of studies meet and recommend examiners. The Syndicate then appoints the examiners and, in the case of the matriculation examination the head examiners. The Syndicate usually accepts the recommendations of the boards of studies. There are paper-setters and examiners, The papers are sent by the paper-setters in manuscript to the registrar by name in double sealed registered envelopes. The registrar keeps the envelopes in a safe. All the papers are sent to England except those of examinations where the numbers of candidates are very few. Proof corrections are made in England, and this work is done effectively. The papers are usually sent to England in August. The Oxford Press cannot be responsible unless they receive the papers by September. The papers are returned in steel boxes with tin lining. These are placed in the strong room and opened in the registrar's presence. There are about 60 centres for the Matriculation. The registrar makes up the packets for each of these centres. This work is done by the registrar and one or two senior members of his staff in the strong room. This work of preparation for the Matriculation takes about a fortnight to three weeks. The packets are sent in strong cloth-lined sealed envelopes to the several centres and are addressed to the superintendents. The responsibility then rests with the superintendents who are expected to abide by instructions issued to them. The superintendents usually receive the papers about three days before the examination. After the examination the superintendents send back the answer papers in boxes to the registrar, who distributes them to the examiners with the assistance of a sorting staff. The sub-examiners send in the mark-sheets to the head examiners.

GILCHRIST, R. N.

8th February 1918.

Defects of the present system.—The witness enlarged upon the defects of the presen affiliating university system which had been explained by him in his written memorandum Reference was made, in particular, to the following defects:—

(*a*) The secondary school system is both unsatisfactory and inadequate

(*b*) The university organisation has broken down owing to the excessive number of students and to the extensive area administered by the University.

(*c*) The combination of a very large number of colleges spread over a wide area and having different standards and different ideals is unsatisfactory both to the University and to the colleges themselves. The present constituent elements of the University are too varied for any permanent or satisfactory cohesion

GILCHRIST, R. N.—*contd.*

(*d*) Educational efficiency unfortunately is not the only aim of the University and of its several affiliated colleges. Many difficulties, political, religious and racial, have been introduced. The racial cleavage is most unfortunate and its existence is evident in particular in the elections to boards of studies, etc. Certain colleges have missionary as well as educational interests. Occasions might arise when the former might outweigh the latter. The financial position of certain colleges again depends upon numbers and much to the detriment of educational efficiency. There is thus a vested interest in the maintenance of large numbers and of low fees. Restriction of numbers, therefore, which is so essential to the promotion of efficiency, cannot be enforced. The University also works under a cloud of suspicion in the minds of educational and other authorities both in Calcutta and in the mufassal. So much is this so that there is little likelihood of financial assistance to the University from the outside districts.

(*e*) The new arrangements for post-graduate teaching are ill-advised. The object of the new scheme was to abolish competition in the matter of students. This has been effective, but at the expense of colleges whose post-graduate instruction under the old system was considered by the witness more efficient than that of the University. On the other hand, competition has arisen under the new system in the matter of staff, in that the better teachers are being attracted from the colleges to the service of the University. The effect of the new system therefore on the colleges is detrimental. The colleges should not be subordinated to a university organisation such as exists at present. Educational efficiency is affected adversely by the divorce of the post-graduate from the under-graduate work. Existing material should be used as much as possible in accordance with educational efficiency.

2. *The unitary system.*—Many of these defects can only be removed effectively, though gradually, by the acceptance of the unitary principle. A university of the present Calcutta type is useful in the elementary stages of university development. It should be broken up into independent universities as the colleges become efficient, after taking geographical considerations into account. Experience in South Africa is in favour of this experiment. Originally there was the affiliating University of the Cape of Good Hope. In very recent years the South African College at Cape Town and the Victoria College, Stellenbosch, have found it necessary to break away from the affiliating university and become separate teaching and unitary universities. There still remains a federal university for the rest of South Africa with its head-quarters at Pretoria. The two new universities are not controlled by the State. The witness admitted that racial and financial difficulties in South Africa had played a big part in these developments but that satisfaction among the various communities and colleges had been reached only by the above method of division. Witness emphasised the fact that in the memorandum of the South African College on the subject of university organisation in general, a memorandum in which the best opinion was secured from all over the world, the great preponderance of opinion was in favour of the single college teaching university.

3. *Formation of a state unitary university in Calcutta.*—The new Presidency University defined in the witness's memorandum would consist primarily of the Presidency College situated either in its present quarters or in the neighbourhood of Calcutta. The Bethune College should be incorporated in the new university. Apart from these institutions, no other arts college should be admitted to the new university. The three missionary colleges in Calcutta therefore would not be included, but would be connected with the proposed University of Calcutta. The witness did not wish to speak definitely on the inclusion of the Medical, Sibpur and Law colleges, as interests with which he was not intimately associated were implicated. He would prefer the Sibpur and Medical colleges to be merged, if possible, in the new university. The inclusion of engineering depended on the decision of the major question as to the relationship between the Indian universities and the teaching of engineering in its higher ranges. The witness was uncertain whether or not the Madrassah and the Sanskrit College should be included. The Presidency University would not necessarily undertake teaching of every subject which was declared to be of a university standard. A duplication of professional departments in

GILCHRIST, R. N.—*contd*

the same city would probably be inadvisable. There should therefore be consultation and co-operation between the two universities in Calcutta in conducting the work of these professional departments. Such institutions as were included in the Presidency University would be subject to a controlling officer and the university organisation, but they would receive a large measure of freedom. On the arts side of the new university, the numbers should be restricted and limited to the capacity of the existing accommodation at Presidency College. Expansion might take place in the future, but the number of students should remain small and not materially larger than the number at present attending Presidency College. The State University and Government in consultation would decide the number of admissions. Government would accept financial liability, but the rate of fees might be increased. There was no reason why private benefactions should not be forthcoming. If a private benefaction were offered for an expansion of the activities of the University, Government would have to decide whether to supplement or to refuse the gift.

4. *Conditions of appointment.*—Appointments as far as possible should be attached to specific university posts and not to a service. Unless changes are made in the present system of recruitment for the Indian educational service in consequence of the Public Services Commission report, the senior officers of the University will be appointed, as now, by the Secretary of State. It would be advisable, however, that more scope be given to the local authorities in India in the making of the higher appointments. In that class of appointments which come at present under the charge of the local Government, the staff will be appointed by Government on the recommendation of the university authorities. This practice already obtains in appointments to the provincial and subordinate services at the Presidency College whose governing body makes recommendations which are accepted almost invariably by Government. Under the proposed scheme Government will have the right to refuse or to accept any nomination of the university authorities, but it is improbable that in practice there will be any serious difference of opinion between them. In the event of disagreement which cannot be removed by further consultation the views of Government will prevail.

The present organisation of the Department and of the educational services should be materially altered. The Education Department as at present constituted cannot cope with its many functions and it would be unfair both to the department and to the new university to impose on the Department the additional burden of supervising the new university. The Department of Education therefore should be reconstituted so that there be a separate controlling agency to deal with university education. The official in charge of this new department will be either independent of the Director of Public Instruction and be responsible directly to Government, or be subordinate to the Director of Public Instruction, who should then be a general supervising officer with the present work divided into compartments with officers responsible to him for each. With this officer there might reasonably be associated a representative committee to advise him in educational matters affecting the University.

The educational services should be divided into two branches, one consisting of the university appointments and the other of headmasterships, inspecting and administrative posts. Transfers between the two should rarely be permitted. The member of the professorial side may be transferred by Government to other Government colleges elsewhere after consultation with the university authorities. Such transfers would only be made in exceptional circumstances, but it would rest with Government to decide whether the circumstances were exceptional or not. The decision whether or not a university officer is competent for university work would lie in the last resort with Government. The staff of the University being Government servants they cannot be dismissed by the University. In certain exceptional cases it might be advisable to consult some neutral authority before a decision is arrived at. A member of the university staff will not be able to claim the right of transfer to another post, but must obtain first the consent both of the University and of the Government. The witness agreed that difficulties might arise but he thought them improbable. The appointments would be very much the same as those to Regino chairs in other universities.

5. *The ultimate constitution.*—The ultimate constitution of such a university would be that Government make a block grant to the University, insist on a proper audit of

accounts and other safeguards, and allow the University to make its own appointments. The university staff, however, should have some legal security of tenure which would be a condition of the Government grant. Under such an arrangement it would be perfectly possible to recruit a suitable and competent staff. It would also be necessary to observe the privileges and contracts of the present Government officers. The point of transition from a service to an autonomous university might be difficult, but the new system might be introduced gradually as vacancies arose and as conditions altered. The immediate constitution of such an autonomous university would be inadvisable. Witness considered that the aim of the State organisation should be autonomy, but that present conditions demanded the constitution of a State university as a *pis aller*.

Witness considered that the security of an institution such as the Presidency College could not be secured by including that college in a wider whole. Any other method of securing the unitary university would be open to the objection that full autonomy cannot be given to university institutions in India at present. Single minded educational ideals could best be secured in an institution which had the best conditions for educational work, and that was an institution where the financial basis was sound and, till it reaches the stage of independence by the growth of merit in individuals and public spirit in bodies the neutral power of Government could correct un-educational tendencies.

Witness chose the Presidency College as the centre for the arts side of the State University in order to utilise existing material. The State University might be established *de novo*, Presidency College being otherwise utilised. Such procedure would be wasteful. The essential point was State control which ensured sound development.

6. *Reasons for a State university.*—The chief object of the State University is to enable certain Government institutions to develope independently of other institutions whose ideals and standards are different, and with a single eye to educational efficiency. To ensure good work a reasonable financial basis and a restriction of numbers are essential. Government can provide the former and enforce the latter. Experience has shown that the question of numbers is mainly a matter of finance. The financial status of Government institutions is guaranteed and therefore security of development is ensured. The mass of the people also appreciate the stability of Government and regard it as the proper custodian of a great educational institution. The present popularity of the Presidency College which receives five times the number of applications which it can accommodate is indicative of this fact.

The State University should be a model for other institutions. By the establishment of one institution where good work will be possible the whole university system will be benefited. If the unitary university systemis introduced into India, the experiment should be conducted under satisfactory conditions.

Witness agreed that financial rivalry between independent institutions was wasteful; but efficiency under the circumstances was the most economical policy. He considered that the creation of two universities was the most efficient course, and that rivalry should as far as possible be prevented. The creation of two universities in Calcutta did not to his mind imply that one university would receive support to the detriment of the other. They would not be competing institutions in this sense. The competition was in standards, and this competition, witness thought, would be of the greatest value in keeping the standards to a high level. Certain artificial methods of keeping up standards were necessary, as witness had pointed out in his written memorandum; and this was of the greatest importance. Witness also thought that favouritism in the matter of graduates' appointments would be impossible under the Civil Service Commission, the constitution of which he regarded to be essential.

The State is also necessary as a co-ordinating agency among the various racial and religious groups in Bengal, and though this applies to other universities as well as to the State University, at least the best example of co-ordination of interests could be shown in a State university.

7. *The University of Calcutta.*—As outlined in the witness's written statement, the University of Calcutta will consist of constituent colleges located in the city of Calcutta. The witness was not competent to state which of the existing colleges in Calcutta should be admitted to this new University, but was of the opinion that only those colleges which reached a satisfactory standard should be included. The colleges so included will be

GILCHRIST, R. N.—*contd.*

named in a new Act of the legislature. An amendment of this Act will be necessary to remove a constituent college from the University. The University will not conduct any teaching on its own account. The proposed university college will not confine its activities to the post-graduate and research work, but will be parallel to the other colleges. The University will be a federal rather than an affiliating institution. Legislation therefore may be necessary to transfer the existing university endowments from the present University of Calcutta to the new university college. The disappearance of missionary colleges in Calcutta would be disastrous to the interests both of the University and of the country at large, but there is no reason to believe that their inclusion in the new University of Calcutta would not be possible. A Government college might be included on the same terms and conditions as the private colleges.

8. *Financial arrangements of the University of Calcutta.*—The colleges will be separate bodies owning their own property and will not be incorporated in the University. They will be separate entities, but not to the same degree as the colleges of Oxford and Cambridge. Considerable assistance from Government will be necessary. A capital grant for the improvement of buildings and equipment is essential. Government grants would be distributed among colleges by the University. Individual colleges should only approach Government for financial assistance through the University, though a college may be entitled to discuss with Government the provision of a grant for other than teaching purposes as, for example, the maintenance of hostels. The fees of students for examination, tuition and other purposes would be collected and distributed by the University. There would be a minimum rate of fees. A college would be entitled for special reasons to levy an additional fee. The scale of fees of the University of Calcutta would probably be lower than at Presidency University. Though the University of Calcutta will not conduct any teaching on its own account, the endowment of university chairs will be possible by attaching the chairs to particular colleges, on the parallel of university chairs in London attached to King's or University College. Benefactions given to a college will ordinarily be benefactions to the University, as the colleges will be the University. Witness's idea of the new Calcutta University was a university as far as is compatible with local conditions of the type outlined in the Haldane report on the University of London.

9. *Degrees and courses.*—The degrees will be awarded in accordance with courses drawn up by the several boards of studies and approved by the university authorities. Wherever possible, the colleges will conduct their own examinations under some special organisation and with some external co-operation and supervision. The University would be the co-ordinating authority, but the faculties should occupy a very important position in the University. The inequality between colleges would be reduced by an inter-collegiate system of lectures. Many of the places on the governing authorities would be held *ex-officio*.

10. *University of Bengal.*—In addition to the Presidency University and the University of Calcutta, there should be an affiliating University of Bengal. The term "University of Bengal" was a term of convenience, the essential point being the independence of the mufassal organisation, whether as a University of Bengal or as an independent body in the University of Calcutta, Calcutta degrees being given to students of mufassal colleges. To it would be affiliated at first the existing colleges in the mufassal. A concentration of effort is essential whereby one college in each division will be marked down as an independent university of the future. Calcutta colleges will be excluded from this University. The object is to enable the better colleges to become independent universities and to divert the weaker colleges to other work. The raising of the standard of admission to the present intermediate stage will assist materially in the development of this policy. There will thus be considerable variation in the standards of colleges. At first there will be a joint matriculation for all the universities in Bengal, but in time a university may find it necessary to hold a supplementary examination. Considerable freedom will be given to the colleges to arrange their own courses and to conduct their own examinations with the assistance of some form of external supervision. There should be no cast iron courses or curricula.

11. *Civil Service Commission.*—Witness considered that for the divorce of university education from the requirements of Government service a civil service commission was

necessary. The Commission would be an Imperial organisation with local branches, and would deal with all grades of Government employment. Some reference to school or university conditions might be necessary, but there was no reason why everyone of approved character should not be allowed to sit for the examinations on the payment of a substantial fee. The present methods of appointment were, from the point of view of an educationist, very bad.

12. *Hostels.*—Witness considered that far too much was made of the necessity of capital grants for the building of hostels. Good private houses could be hired and reconstructed as hostels, and private contractors might be encouraged to build houses suitable for hostel accommodation on reasonable guarantees. Witness was in favour of small hostels for about 40 or 50 each.

HARLEY, A. H.

5th February 1918.

A university classical course.—Mr. Harley's object in suggesting that students should be allowed to take up an additional kindred classical language course for the Matriculation was to make possible the institution of a classical course in the University.

2. *Autonomous university.*—He did not believe that there would be any conflict between the autonomous university and Government. Everything depended upon the connection that existed between Government and the University. The University would advertise and make appointments subject to the sanction of the Board of Education, to be constituted hereafter. In cases of punishment such as dismissal, there would be ordinarily regular right of appeal to the punished. Reference, if any, to the board would be rather on the initiative of the University.

3. *The Senate.*—There should be a purely Muslim electorate composed of registered Muslim graduates.

4. *The Syndicate.*—There should be one representative of Arabic and Persian on the Syndicate.

5. *Committee of residence.*—The committee of residence for Muslim hostels should consist entirely of Musalmans. If it be not possible to have a separate committee of residence, there should be, of necessity, Musalmans on the general body, elected by the visiting boards of the different Muslim hostels.

6. *The Muhammadan College.*—The Government of Bengal are committed to establish a purely Muhammadan college at Calcutta and this should preferably be on the present site of the Madrassah. Witness was not wholly opposed to any of his students attending lectures delivered at other colleges but he insisted that almost the entire tuition given to them should be centred in his own college. Only then he could enforce proper discipline. One of the main functions of the staff would be to impart a classical training.

7. *Collegiate hostel.*—Ordinarily, only students of the college and graduates of the college undergoing a post-graduate course elsewhere would be eligible as members. In the interests of discipline he urged that students of other colleges, when admitted to the hostel, should be placed under the control of the Muhammadan College.

8. *Senior fifth-year certificate leading to a degree.*—As in the Punjab University, students who have obtained the senior fifth-year certificate with honours in Persian and Arabic should be granted the option of taking the B.A. degree in oriental languages by simply passing the English for the ordinary B.A. degree examination.

9. *Medium of instruction.*—Witness urged that the classical languages should be taught through the medium of the vernaculars.

HOLLAND, Rev. W. E. S.

12th February 1918.

Academies.—The witness explained at some length the type of educational institution referred to in his written memorandum as an academy. Such institutions would give

HOLLAND, Rev. W. E. S.—*contd.*

a training for an enlarged intermediate in arts. Provision might also be made in them for commercial, industrial and agricultural training and for the training of teachers. By this means the University would be freed from the school work conducted by the colleges at present in the intermediate classes and, it may be hoped, from the consequent domination of school methods throughout the course. Bifurcation between a literary and a practical career should take place as far as possible before admission to a university course. With this bifurcation and the consequent diversion from colleges of those unsuited for university work taken in conjunction with the necessary raising of standards, the witness did not anticipate any large and immediate increase in numbers at the University. Indeed, the number attending university courses might be reduced at first; but with the advance of primary education which is essential and should be encouraged as widely as possible, the numbers at the University would later on increase. The training of teachers would undoubtedly be a function of the academy. Some of the Calcutta and many of the mufassal colleges would become academies.

2. *Supervision of academies.*—The witness was uncertain how these academies should be organised and controlled. He did not think that the University should be the controlling body except in so far as the actual admission of students to the University was concerned. He was very doubtful whether the University should control the examination which would take place about the time of the present matriculation examination and be of a similar standard. But for either of those purposes, the University might contribute a specified number of representatives to a joint board.

3. *University courses.*—Better facilities for teaching should be given to students of the honours type. The honours B.A. therefore should be separated distinctly from the pass B.A. If the B.A. honours course were properly organised and were one of three years there should be no need of a M.A. course as at present arranged. The witness was in favour of a single course.

4. *Agency for conducting courses.*—Post-graduate and honours B.A. work should be conducted by the university staff with the assistance of such members of the college staff as were approved by the University. The witness hoped that the number of college teachers so approved would form the bulk of the university staff. It would be for the University to decide the nature of these courses and where and by whom the teaching would be given. In regard to the B.A. pass course the number of students would be so great that the work should be entrusted as now to the colleges.

5. *Appointments.*—A college should have the right of appointing its own staff; and the University should decide who shall be university teachers. The primary duty of a college teacher therefore will be to give pass B.A. instruction and, in the next place guidance and tuition to the honours and post-graduate students at the college. The witness, however, hoped that a large number of the college teachers would be employed by the University to undertake university teaching. In making a new appointment, therefore, a college would be wise to make enquiries whether the man appointed would be likely to be recognised and employed as a university teacher. If in appointing to a university professorship or lecturership, the University had to go outside the ranks of the college teachers, arrangements should be made for the association of persons so appointed with the staff of one or other of the colleges, university teachers would in respect of university teaching be under university control and would only be available for college work to the extent stipulated when making the appointment.

6. *Position of colleges.*—The witness hoped that the colleges of the future would be much smaller than at present. It was supremely important to fix some ratio between the tutorial staff of a college and the number of students in that college, but he saw no reason to restrict the number of students attending any particular course of lectures. There was no objection whatever to a large number of students attending a course of lectures provided that adequate tutorial assistance elsewhere was guaranteed. Students, whether they lived at home or not, should be attached to a college and should be eligible for admission to any college they chose irrespective of the teaching provided by that college. It would be for the colleges to refuse admission to students if they thought the students would be outside the life and scope of the college.

HOLLAND, Rev. W. E. S.—*contd.*

Colleges again would be of varying standards. Some might confine themselves to the honours teaching and others to the pass teaching; some again might undertake both honours and pass teaching and others might undertake the present intermediate work and become academies.

Colleges should be adequately represented on the governing authorities of the University. The witness did not anticipate any domination of college interests on those authorities, but rather the subjection of the college interests to the University, a danger which should be safeguarded as much as possible. Speaking generally, however, the witness said that he had sufficient faith that the University would be ready to recognise the good work performed by colleges. In any case the college must retain the appointment of their own residential tutorial staff. In the event of any abuse of power by the University an appeal to public opinion would probably be effective. Government control would be a diminishing factor, but so long as it lasted it would be on the side of fair play as between the religions.

7. *St. Paul's Cathedral Mission College.*—The witness would prefer St. Paul's College to become a member of a university in which teaching was organised as a whole and by which all the available resources were utilised to their utmost capacity rather than to remain an affiliated college under the present conditions. He would wish his students to be entitled to attend lectures in institutions other than St. Paul's. The number of lectures to be attended by students should be less than at present, and therefore there should be more guidance and supervision of students' work; and this should be the function of colleges who would also supervise the moral development, residence and recreation of students. The teachers of a college when qualified should have reasonable hopes of being recognised as university teachers. Under such an arrangement the teachers of a college would be more likely to take part in any grade of work for which they were qualified than they are under the present system under which participation in any particular piece of teaching work depends upon the rules of affiliation.

8. *Finance.*—The honoraria and salaries paid by the University to college teachers for work carried out in the name of the University should preferably be paid to the college concerned. The witness said that he had not tried to work out the financial arrangements of his scheme.

9. *Mufassal colleges.*—Some of the existing mufassal colleges would reasonably become academies. Others again might hope to become separate local universities in the future. A growing measure of freedom and responsibility should be accorded to the latter. Such colleges therefore would be expected to undertake honours work if they were sufficiently competent. The witness held that the mufassal colleges should not be connected with the teaching University of Calcutta. The function of organising mufassal colleges should not be mixed up with the duty of organising the work of a teaching university. The head-quarters of the University of Bengal would probably be in Calcutta and therefore the new university would be able to draw on the resources of Calcutta for inspiration and guidance. The importance of the University of Bengal would decrease with the constitution of new local universities. The witness agreed that it might be possible to constitute a satisfactory organisation under the Teaching Calcutta University for the supervision of the mufassal colleges, provided that this work was sufficiently marked off from the ordinary duties of the University. On the whole, he would prefer a separate university for mufassal colleges, and chiefly in the interests of the teaching university which should not be hampered by extraneous duties and conflicting standards.

10. *A State university.*—The witness said that he had heard proposals for the constitution of a State university in Calcutta, but had not been much attracted by it. The constitution of such a university would probably weaken the other colleges.

11. *Medium of instruction.*—The witness held very strongly that as far as possible the vernacular should be the medium of instruction. The use of the foreign medium was a great obstacle in the way of the development of Indian thought. There was at present a widespread intellectual activity in Bengal, but it was not connected to any extent with the University. The colleagues of the witness at his College were in agreement with him on this question, but probably held very different opinions two years ago.

HOWELLS, Rev. Dr. G.

15th February 1918.

Matriculation age limit.—The present minimum age limit for the Matriculation as it now stands should be removed or the character and standard of the examination radically changed. Boys of fourteen and fifteen often reach the standard now required and the present restriction bears harshly on them.

2. *Extension of the school course to the intermediate stage.*—On paper the intermediate standards are on the whole equivalent to corresponding pass standards of foreign universities, but are far from such in practice. The witness recognised the desirability of securing more adequate preparation of boys for the university courses and of relieving the University from undertaking school work. The present intermediate work would be conducted better on class methods than by means of lectures. The schools, however, are as yet quite incompetent to undertake the increased responsibility of the intermediate work. Unless really good teaching is substituted, the change would be disastrous. The witness thought that Serampore College was doing work of real value in its intermediate classes, but if that work could be accomplished wisely and well in another type of institution it would be better for Serampore to confine its activities to really university functions.

3. *Future prospects of Serampore.*—The witness hoped that Serampore would in due time develope into a separate university. It would not be by any means a purely residential institution as half the present students live with their parents or approved guardians. It would be unwise to interfere with such a practice. Under present conditions he considered the college sufficiently equipped to provide fairly adequate university instruction in a limited number of subjects to about 300 students, though the college had not fully reached that number. If financial resources were forthcoming to enable the college to develope on more definitely university lines, it would be their aim to build up at Serampore a thoroughly well-equipped university college, providing first class instruction in a limited number of subjects for some 500 students. He had not thought out as yet the subjects in which the new university would specialise. The University when constituted might easily meet the ordinary demands of the district, if not of the division. Accommodation would have to be provided elsewhere in Serampore for the school department if the college was to develope on university lines. The college authorities did not intend or desire to use their university powers, for purposes other than theological, unless strong and stable foundations were laid worthy of an institution of university rank.

4. *Transitional arrangements.*—During the time of transition the witness would prefer Serampore College to be connected with the new Teaching University of Calcutta than to be under the proposed University of Bengal, which would be a university of the federal type and composed of colleges outside Calcutta and Dacca. Association with a big teaching university would be of greater advantage to the college from the academic standpoint, while the University of Bengal would be likely to perpetuate the existing evils. True university ideals would more probably be stimulated by the first than by the second alternative. More healthy progress would be possible in the case of a college connected with a live teaching organisation than with an administrative office. Speaking generally and apart from the special interests of Serampore, the witness did not think that the proposed University of Bengal was based on sound educational ideals. There was a danger of dividing unnecessarily the educational life of Bengal without any corresponding advantages. The mufassal colleges under such an arrangement would come to be looked upon as being of an inferior brand. Moreover the University of Calcutta would be more likely to deal fairly with the better colleges which wished to become separate universities than the University of Bengal which might be dominated by the representatives of the weaker colleges.

It would be necessary however so to organise the new University of Calcutta that the interests of the mufassal institutions could be assured of the best consideration. Their needs could not be met by a syndicate with a great and pressing variety of other business. An adequate organisation was essential. The witness did not think that Calcutta as reorganised would behave in a narrow or exclusive spirit.

5. The witness promised to submit an additional memorandum explaining the academic and administrative organisation of a college such as Serampore, during the time of transition and outlining plans for the development of the college on independent university lines on the basis of the existing college charter. So far as the present situation was concerned, both as it affected Serampore and other mufassal colleges similarly situated, he felt strongly that, subject to the general supervision of the parent university and in proportion to its successful development, a college should be given greater freedom and assigned to responsibility in its academic and administrative organisation.

6. *System of examination.*—In order to mitigate the mechanical system of a written examination and of awarding marks on a mechanical method for each question, the witness thought that more power should be given to the teachers of thoroughly equipped institutions of proved reliability. By this means some reference to the work of candidates during their academic course would be possible, and corresponding value it in estimating a candidate's fitness to receive his degree.

7. The witness did not think that Serampore could with advantage be connected closely with the teaching University of Calcutta so far as its teaching arrangements were concerned. The distance was too great and there would be a great waste of physical energy in travelling to and fro. In case of need, however, it might be possible for advanced students to attend special courses of lectures from time to time, or an interchange of lecturers might be possible for special purposes.

MAHTAB, The Hon'ble Sir BIJAY CHAND.

19th February 1918.

Moral and spiritual culture.—The witness did not advocate formal moral teaching through the medium of books or fixed courses. His object was rather to protest against the dominance of cram and the superficial nature of the teaching. There is no intellectual training in the true sense of the word. The objects of the boys are confined very largely to gaining admission to Government service. The witness thought that the system of education, bad though it is, is deteriorating.

2. *Agriculture.*—The present trend of education is to draw away boys from the villages and rural life. So much is this so that pure Bengali cultivators are scarce, though a certain number of Bengalis supervise agriculture. The rural schools should provide a useful general education, but should not unfit the boys for agricultural work. Agricultural education by itself will not solve the problem. A graduate in agriculture is not likely to find suitable employment. The zamindars require a different type of manager for their estates. They are not as yet in need of the scientific advice of the agriculturist.

3. *Burdwan College.*—The witness was anxious that his college at Burdwan should provide a course of education appropriate to the needs of a rural town and complete in itself. For this reason the witness had never made the college a full-grade college. He considered it well within the scope of such a college to train teachers and to prepare boys for a practical course. The witness would approve the development of the Burdwan College on the practical side, but he did not desire to create an additional manufactory of graduates. There should be some link between the present college and the technical school.

4. *Hostels.*—The hostel buildings in Calcutta are luxurious for boys coming from the mufassal. The boys would be more comfortable in a more humble building in their own districts. The witness thought that the over-crowding in Calcutta was a great evil to students and strongly advocated a development of rural and practical education outside Calcutta. The students suffer much from malaria. They seem morose in their demeanour.

5. *Educational units.*—The witness explained in detail what he considered an urgent necessity in the programme of future education in this country; it was to have self-contained educational units for the villages, the rural towns and for the large cities, so that each unit might have sufficient scope for a great number of boys who need not have to come to the large cities in every case to finish their education for the search of employment.

MAITRA, HERAMBACHANDRA.

27th February 1918.

The City College.—The City College stands for social and religious reform. The witness desired that as many students as possible should come under the influence of the college. It might be possible for students attending lectures at other colleges to live in a boarding house of the City College, but the witness was somewhat doubtful whether this would be a wise step. He approved the plan of having university courses in agriculture, commerce, etc., but the City College would be unable to provide suitable instruction in these directions. The better plan would be to constitute separate colleges for these departments of study.

2. *Development of the college.*—There should be co-operation between the University and the colleges, and it should be the duty of the former to supplement the lectures of the latter. The witness was strongly in favour of giving facilities for tutorial instruction, and students should write exercises, etc., under the guidance of their tutors. Students are generally lacking in curiosity. There is a great need therefore of more contact between students and teachers. Something has been done in this direction at the City College. Tutors have been appointed to undertake this work. While the principal is willing to take his share in this work, he is unable to do much in this direction, as the administration of the college is an arduous task and he has not time to prepare his lectures if he devotes much time to seeing the students individually. The witness thought that money should be given to the colleges through the University to enable them to do their work efficiently. These grants, however, should have no other conditions attached to them than that they should be spent solely for the purposes for which they are given. In this connection the witness referred to the conditions imposed in connection with the Government of India's recent grants for hostels. At any moment the secretariat may transfer a hostel from the college to Government.

3. *Honours courses.*—Owing to the absence of the necessary resources it would be unwise to alter or expand the scope of the honours courses. If the honours and pass courses were completely separate it would be beyond the resources of the college to undertake both. The witness was not in favour of the University undertaking the honours work, as the colleges would be lowered in prestige. It might be possible, however, for the University to supplement the college lectures, in which case the number of college lectures might conveniently be reduced. The colleges should not attempt to give the highest teaching in every subject, but they should be encouraged to give the highest teaching in some subjects. The witness was not in favour of reducing the number of lectures for honours students as lecturing is of greater importance than tuition for these students. The witness thought that something might be done by an inter-collegiate system of lectures, but he was not very hopeful on the subject. The climate and the poverty of students were opposed to this system. There might, however, be some co-operation between St. Paul's and the City College. Inter-collegiate lectures had not yet been started, except to a limited extent, though the regulations permit them.

On the whole, therefore, the witness favoured expansion on existing lines except that in regard to honours lectures a certain degree of inter-collegiate co-operation and a certain number of university lectures supplementing college lectures might be possible. In regard to pass lectures the witness advocated no changes. Inter-collegiate arrangements are neither practicable nor necessary for pass students who should attend all these lectures in their own colleges.

4 *Vernacular.*—There must be a movement in the direction of more education through the vernacular. The western character of education, however, should not be sacrificed. Much instruction and tuition might be given in the college by tutors through the vernacular.

5. *Freedom of discussion.*—There should be freedom of discussion. The professor should not use the opportunity of lectures to influence his students unduly but he should be at liberty to express his views on political and social matters outside the college.

6. *Recognition of schools.*—The witness objected very strongly to the report of the Bengal District Administration Committee. It is for the University to carry out

reforms in, and to recognise, schools. The inspectors' reports should be considered by the Syndicate. The inspector is not infallible and therefore a board is better than an individual. The witness had no objection to the constitution of a special committee for the purpose by the University. Grants might then be placed at the disposal of the board for the improvement of secondary schools. The constitution of a national board of education might have beneficial results. Experienced head-masters should be included on the board. There should always be a right of appeal to the Senate, but as a matter of fact the Senate very rarely intervenes. The mere right of appeal acts as a check on the caprice of a subordinate body. The witness would not wish the City College or any part of it to be placed under such a board.

RAMAN, C. V.

11th February 1918.

Opportunities for research.—The witness referred to the printed memorandum on the Calcutta School of Physics and mentioned what he thought was a most remarkable original investigation recently carried out in his laboratory by a man who was not a university graduate. His memorandum and this incident taken together clearly proved that there were a large number of Indians who were competent to carry on the highest kind of original work, provided they had the opportunities to take up such work. Hitherto such opportunities did not exist, because the Government of India and the local Governments had shut out Indians of ability from their higher educational and scientific services. This had been done as a matter of deliberate policy. Government had encouraged Indians of first-rate ability to become accountants, policemen, judges, or executive officers or to take up other similar work where they had to work in grooves laid out for them in advance. This is clearly shown by the Hon'ble Mr. J. B. Brunyate's evidence before the Public Services Commission where he said that "The Indian candidates who competed at the examinations (of the Finance Department) were some of the most brilliant men of the year, men who were at the top of their own academic tree, and the Department was fairly sure of getting exceedingly good men intellectually." But the Government did not allow Indians of real ability to fill high educational or scientific appointments which afforded opportunity of exercising intellectual initiative. If the opportunities had been allowed, such Indians would long ago have found out for themselves that intellectually they were at least as good as the best men in any country, and would have estimated the capacity of their own country-men at the proper worth. They would have thrown themselves heart and soul into the work of training their country-men for the highest type of intellectual work, moulded the character of generations, and taught them self-respect. Perhaps it was feared that this might undermine British administration in India!! In every country, the success or failure of a university has depended upon the enthusiasm and energy of the men filling the highest chairs, as these men practically create the atmosphere. The most urgent reform in Indian education needed is that in future all such appointments in India should be filled by Indians of high ability whose duty and interests alike would be to create opportunities for their own country-men for doing the best type of work.

2. *The Indian educational service.*—This service, in the opinion of the witness, was neither Indian nor educational nor had it rendered any service to the country. The service had practically no Indians in it. It contained men who were supposed to be able to do all kinds of work (inspecting an elementary school or teaching history or mathematical physics to university students), but who, with a handful of honourable exceptions, were practically men of little merit. The witness said that from personal knowledge he was prepared to say that the pupils who were carrying on research in his laboratory were abler men than most of those at present in the Indian educational service. The calibre of this service had become evident to most who, like himself, had been long in touch with educational affairs in India, and latterly some of the men in this service had been deliberately blocking and obstructing Indian aspirations for advancement in educational work. The witness had personal knowledge of various cases in which the professor in this service had treated Indian teachers and students in a most unfriendly way, and

RAMAN, C. V.—*contd.*

had prevented competent and brilliant students from taking up research work. He wished to put these cases personally before the Commission but as they related to a province from which no evidence was being taken, the President thought no useful purpose would be served by going into the details of these cases. The witness submitted that the interests of university education in India required that the Indian educational service as such should cease to exist, and that all higher teaching in the University should be carried on by men filling chairs or lectureships paid by the University or in non-Government colleges forming an integral part of it.

3. *Development of Calcutta University.*—The witness spoke of the work of the Department of Physics of which he was the head, and hoped that in time it would turn out work as good as that of the foremost European and American universities. A good deal of research had already been completed, and further work was being energetically carried on. But financial assistance was necessary to enable the laboratories to be more fully equipped and to improve the prospects open to their research workers and lecturers. The witness was strongly in favour of making the Calcutta University autonomous. Government should make a liberal annual grant and trust the men in the University to administer it properly. But it should not interfere with university work. The University on its academic side should be an entirely free institution. Only those who took part in higher education and those who as businessmen or professionals were concerned with the character of its output should find a place on the governing bodies of the University.

4. *Appointments.*—India was a poor country and it was entirely wrong to offer extravagant salaries. The emoluments of the Professors at Cambridge were generally limited to £800 a year and the same limit should be enforced in India even in respect of the highest professorships. Any man worth his salt who really cared for academic work in India should be satisfied with this or less pay. Free residential accommodation should be allowed whenever possible. It is the opportunities for leisured study and research work that attract good men to university work, and not extravagant salaries. Competent Indians could be had for £800 a year or less. Indians have, for many years past, been most unfairly treated in respect of higher educational appointments, and as a matter of elementary justice to them in their own country, it should be arranged that in future, opportunity should be given to the best Indian available to prove his capacity in a university vacancy by actual trial for a period of five years. Instances were to be found at Cambridge and elsewhere, where very young men who had given promise had been given university chairs and had proved a resounding success. By making the appointment for five years in the first instance, it would be possible to get rid of any one who did not prove a success.

In the opinion of the witness, competent Indians are available in this country for any university appointment that might be created and in any case, an opportunity for proving fitness should not be refused. No doubt, contact with eminent foreign men of science is desirable in the interests of academic efficiency. This could be conveniently arranged by inducing men who are right at the top of the scientific ladder (men like Sir Ernest Rutherford for instance) to come to India for short periods to deliver an occasional course of lectures, and to come into personal touch with our professors and students. The witness thought this could be arranged without difficulty and is, in fact, being done by every advanced university in the world.

The witness was in favour of creating special boards of electors for filling up important professorships and lectureships in any subject in the university. Those boards should consist of picked men who had special knowledge of that and of allied subjects and also of one or two representatives of general culture and academic knowledge. For example, the Electoral Board for the physics chair might consist of physicists and also of representatives of mathematics, chemistry and so on. This would ensure appointments being made exclusively by reason of academic merit. Research scholarships should be in the gift of the university professors.

5. *Courses of study.*—The courses of study should be in the hands of the teachers. The representatives of public opinion should be associated with the professors in determining the development of university policy.

6. *Government colleges* should not remain as such, but should be merged in the reformed university. The University should be represented on the governing bodies of private colleges.

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7. *Political influence.*—The witness did not admit that political leaders in any way interfere unduly with the life of the University. Representatives of public opinion were essential.

SHARP, The Hon'ble Mr. H.

9th February 1918.

Expansion of certain points in the written memorandum.—The witness said he would like to expand a few points in his written memorandum so as to remove any chance of misunderstanding. Paragraph 4 of his introductory note was not intended to mean that public funds should not be given for the advancement of university education. His meaning was that public funds will be required for the reform and expansion of primary and secondary education, and therefore the amount of such assistance for university development must be limited. He also said that some of the figures he had adduced must still be regarded as provisional, as he had not obtained all final figures.

2. *Increase in the demand for secondary education.*—In reply to the President who referred to the extraordinary increase in the demand for secondary and collegiate education and the consequent pressure on the schools and colleges, the witness said that a phenomenon of this nature cannot be accounted for by any single cause. The primary cause of this expansion is the economic condition of Bengal. The very great increase of wealth among certain classes, the growing prosperity of the cultivator, especially in the jute districts, the rise in prices, the relative impoverishment of the *bhadralok* class, the middle class who are unable to live as they used to live and who are struggling more and more for employment when previously not all members of the family required employment, the continued sub-division of landed property, are all important factors in the situation.

Other sections of the population again who previously did not seek secondary education have now begun to do so in ever-increasing numbers. This is the case with the *Namasudras* who used to be regarded as a depressed and uneducated class. The progress of this class is due to a large extent to the efforts of the missionaries such as the Oxford brothers at Barisal and the Australian Mission at Faridpur. The *Namasudras* are now beginning to require their boarding houses in secondary schools and colleges. The numbers of musalmans desirous of a secondary and collegiate education have also increased very substantially though they are still small in comparison with the muslim population of the province;. This advance of muslim education began about 1905.

There is also a feeling among the people at large that they will be benefitted by education, and that they gain a social status by having been at a secondary school and by getting into service or some profession.

Asked whether there was any likelihood of a check to this movement, the witness said that he had wondered whether the present rate of increase in numbers would be maintained if boys were diverted to forms of instruction other than the purely literary. Should there be a considerable industrial development, the rush to secondary schools and colleges would be checked to some extent, and it is possible also that the professional classes may act in the trades-union spirit to promote their own interests and demand the raising of fees and a stiffening of conditions, though there is no sign of any such tendency.

3. *The need for improvements in secondary education.*—The witness agreed with the President that there was need for great improvements in secondary education, for better methods of teaching, more inducements to enter the teaching profession and possibly, some modification of the test held at the completion of the secondary course.

4. *Control of the secondary school system.*—The witness approved the idea of constituting some authority representing the University, the State and public opinion for the conduct of examinations during the high school stage. Such an authority has been found useful in the United Provinces where the school-leaving certificate is growing in popularity. In Madras, a somewhat similar system prevails, but the school-leaving certificate scheme was not very carefully framed. It allowed a great many unfit boys to obtain admission to colleges. The University has now made a rule by which the marks of the candidates are considered and only those are allowed admission to colleges who have obtained a per-

SHARP, The Hon'ble Mr. H.—*contd.*

centage of the full marks or a minimum calculated on the average marks of the Presidency. The witness had recently discussed this matter with an authority of the Madras University who said that the system was now satisfactory. Turning to Bengal the witness thought that the proposed authority should work under the ægis of the State and not of the University as the interest of the former in secondary schools is greater than that of the latter. The proposed authority should have advisory powers at first, but possibly it might have administrative powers at a later date. The witness would not be averse to giving this authority considerable powers in regard to the recognition of schools, but he thought that the authority should report to Government who would themselves recognise the schools. Inspectors should be under the direct orders of Government. In Madras there is an excellent arrangement by which the University has nothing to do with the recognition of schools and it is reported to work well. The substitution of State for university recognition should be accompanied by large grants for secondary schools from public funds so as to improve schools and obviate apprehensions which might be entertained regarding the withdrawal of recognition from weak institutions.

5. *Expansion of the school course to the intermediate stage.*—Reference was made to the witness's statement in his written memorandum that "in considering whether independent investigation by teachers is a condition applicable in Bengal, it has to be borne in mind that the majority of students in the colleges of Bengal are really in the school-boy stage and their mental condition calls for the methods proper to a secondary school, not for the instruction necessary to university education of the true type." The witness was asked whether he contemplated an expansion of the secondary system to cover that school stage which he spoke of as extending to the intermediate and, if so, what would be his idea in regard to the administration of this work in relation to the University on the one hand, and to the secondary schools on the other. The witness said that the idea that the schools should undertake a portion of the education now conducted in the colleges was very attractive and was supported by Pandit Madan Mohan Malavya and others. Caution, however, was necessary. There are some 700 or 800 schools in Bengal many of which are inadequate for the teaching they undertake at present. It is difficult to see how there is a reasonable prospect that any substantial number of these schools will be able to undertake an increased measure of responsibility.

6. *Constitution of a special type of institution.*—The suggestion was made that a special type of institution be constituted for conducting the higher secondary work and for handling that type of students who are found in the junior classes of colleges under conditions where better teaching than that given in the schools, but following school methods, will be available. The witness thought that this proposal would approximate to an undefined multiplication of second-grade college institutions which had been condemned by the Commission of 1902 and by a good deal of educational opinion and experience. The number, location and the whole organisation of these institutions would have to be considered very carefully. It might, again, be undersirable if a boy received some education in the high school, was then moved suddenly to a new institution with entirely new surroundings, and finally transferred to a college. The witness thought it arguable that the second-grade college was unfortunate in its name which suggested an institution trying to develope into something higher instead of being a place where the highest ranges of school education are provided. Second-grade colleges normally grow into first-grade colleges; if any second-grade college showed signs of a healthy growth, it should be fostered rather than reduced. Witness said that one of the university committees appointed subsequent to the drawing up of the new regulations had made a proposal that there be a new type of secondary school. If such a proposal were accepted, the mufassal second-grade colleges might be recognised as good schools. The logical conclusion would then be to have two sets of examinations such as were recently suggested by the Advisory Committee to the Board of Education and by the Board of Education itself, one testing the present school course and the other testing the higher school course proposed. The witness still saw practical difficulties in the way which led him to avoid giving any definite encouragement to such a proposal in his written memorandum.

7. *Vocational training.*—The witness agreed that there was room for some initiation into vocational training or semi-vocational training, after the completion of the present high school course. He favoured strongly the idea that the last two years of school life

after the high school stage had been completed should be devoted by some boys to work preparatory to the University, by others to work preparatory to entry upon some professional training and by others to work preparatory to agricultural engineering and commercial training, etc. It would be necessary to see in what proportion boys went to the different classes started under such a scheme. Experience showed that boys would be inclined to flock into the classes preparatory to the University. It is essential, however, that any form of leaving examination must give free entrance to the University as well as to technological colleges and other such institutions. The witness instanced the failure of the C classes from the very beginning. The B classes, however, had struggled on with some success and specially in Eastern Bengal. The witness himself had encouraged the B classes when he was in that province. His efforts and the fact that the province was fairly well supplied with technical schools under the district boards had produced some effect. The sub-overseer's class had been popular for a time, but (he understood) not to such an extent latterly. A possible explanation was that the vocations to which the B classes led up had very largely been filled. There was at one time a great deal of employment under *zamindars* open to boys trained in the B classes. The C classes, however, did not prepare boys for an assured career though they offered some chances of a more lucrative career than other professions offered to boys of a particular kind of intelligence, but there was a feeling of conservatism among the people who objected to the thing because it was new. The ordinary course is for a boy to go to school, pass the matriculation, and then proceed to the University. For a boy undertaking such a course, there is a good chance of employment though he may only get a small initial salary of some Rs. 15 a month; but there is also a chance of something much bigger. The course is most certainly a lottery, but it is a well established lottery and is regarded as highly respectable. Vocational classes will only be really successful after there has been a big commercial and industrial expansion. To assist in this possible expansion, commercial and technological education should be more practical so that the capitalist and the employer will have more faith in the product of the technical institutions than he now possesses. If the vocational courses do not lead on to the University, as things stand at present they are doomed to failure. The curricula of these courses should be laid down by a body wider than the University. Such an authority as that discussed in paragraph 4 of this summary would be suitable and should work under the ægis of Government and not of the University. The University, however, would be entitled to say what courses and what standards are required for admission to the colleges, though the witness would deprecate the exclusion of quasi-vocational subjects from courses so qualifying.

8. *Wastage.*—The witness said that he had made some study of this problem, but as yet had not sufficient data and statistics. He had been making a comparison between the position of America with that of India in this respect. So far as he could see, the amount of wastage in the two countries was similar, but with this great difference; whereas the wastage in the United States comes at early stages before the boy has spent money and time, in India the boy wastes both money and time in pursuing a course for which his mental characteristics are not suited and falls on the wayside only at the very close of the course and possibly in the final examination.

9. *Middle schools.*—The middle schools are in an unfortunate position because they are regarded merely as preparatory schools of a somewhat feeble type for the four high school classes of Bengal. The witness had heard that the middle schools were in a better position before 1902 when there was a middle school examination. This examination used to be taken by boys about the age of twelve or thirteen. The middle school examination had been abolished in consequence of a revolt against examinations, but was retained in Burma where it was found to be beneficial. The witness was not anxious to multiply examinations, but was inclined to think that such an examination was necessary for the success of the middle school. By such means the middle schools would have a goal which at present they have not.

Another problem is the early withdrawal from the primary schools. 90 per cent. of the pupils at present are in the elementary stages which are called lower primary and many are not reading printed books. Only 10 per cent. are in the upper primary classes. This means that very many boys who are at school are not attaining the education which

SHARP, The Hon'ble Mr. H.—*contd.*

would make them in any sense a literate. The percentage of literates in this country is 5·9 but should be higher according to the number of boys at school. The witness had calculated that in ten years, 39 per cent. of the boys who had been at school became totally illiterate. If there were a middle school examination, it might induce many boys to continue in the schools, pick up a little English and gain a certificate about the age of twelve or thirteen.

10. *State or autonomous universities.*—The witness was in favour of vesting the control of teaching universities as far as possible in the hands of the teachers. He saw some difficulties in adapting such a system to a Government service, but he did not consider them in any way insuperable.

(*a*) *Methods of appointment.*—It is essential that all teachers in a unitary university should be Government servants. The Government of India have always contemplated the appointment of some teachers by the University itself from its own revenues. Missionary teachers therefore might be included on the university staff. In regard to Government appointments it would be for the University to state definitely the kind of men or the actual individual it required, and Government would probably be able to meet the University in the matter. It is always possible also for Government to make special arrangements in regard to special posts. The real difficulty, however, lies in the fact that the universities will not be likely to obtain the same type of men that Government is able to secure. Candidates appreciate the pension, stability and certainty of Government service. Government looms very much more largely in India than it does in England. It is a huge overshadowing factor handed down from Moghul times. In consequence, Indian professors appreciate a pensionary service very much because it is part of the *dastoor* of the country. With the Englishman the case is somewhat different. There is a good deal of discontent at present among English members of the Indian educational service because they have to serve thirty years or till the age of 55. Memorials have been submitted recently in favour of a short service system with a proportionately reduced pension. University service with a provident fund might be made more attractive even than Government service. But then the scale of pay must be higher and the provident scheme a generous one.

(*b*) *Freedom of speech.*—In answer to the President who referred to the restriction of professors in the matter of freedom of speech on political and other questions, the witness said that difficulties were not likely to arise. A professor would find it difficult to avoid indicating to some extent his political opinions in the course of certain lectures, but he should avoid talking politics to the students. If it were deemed necessary that boys should receive instruction in politics from their professors and if it were thought that such works was inappropriate for Government servants, the treatment of these questions might be left to that portion of the staff who were not Government servants. Again, the Government servants' conduct rules are not worked with unreasonable strictness.

(*c*) *Finance.*—In the course of time Government might be willing to hand over to the University a block grant and allow the University to make its own appointments. From the very start the University should be released from the rule that money unspent at the end of the year lapses to Government.

11. *The retention of colleges in Calcutta. The value of experiment.*—The witness contemplated a tentative method of procedure with the new unitary universities. It is right therefore to experiment in different types of organisation. It would be unwise to depend too much on the success of one particular type. In Calcutta, for example, the witness saw the value of connecting many of the students with some unit smaller than the University, but bigger than a mere hall of residence or a hostel. He therefore saw good reasons for combining the college with the unitary system. Many students again would be living in Calcutta with their parents and these would not be attached to a college. For the benefit of these there would be a non-collegiate department of the University under the

SHARP, The Hon'ble Mr. H.—*contd.*

charge of a special officer. At Patna this function will be carried out by a college situated in the city. Moreover, it would be necessary for the University of Calcutta to use some of the college class rooms for university lectures. The witness admitted, however, that if the intermediate teaching were removed from the University, if certain students were withdrawn for separate treatment to other institutions and if the compulsory attendance at a large number of lectures were reduced the problem of accommodation might be solved to some extent. The witness would not object to the incorporation of a college in the University if it desired and fitted in with the general plan of the University. In that case the college in question would become part of the head-quarters of the university teaching. The Presidency College, for example, might become a university college or remain an important entity with some special privileges. Many of these difficulties would disappear in the case of a uni-collegiate university. Such a university, however, is not possible in Calcutta.

12. *Conception of a unitary university.*—The witness then drew a picture of his conception of a unitary university in which there would be colleges. There would be the university buildings in the middle. Around them would be denominational, undenominational and Government colleges. The general conduct of business and specially of teaching would be conducted in the University in which all the different colleges would be represented. The formal lectures and the formal examinations would be conducted by the University, but there would be room for amicable arrangements being made between the University and the colleges. The presence of the college representatives on the governing authorities of the University would assist the satisfactory completion of these arrangements. The principals of colleges who would thus find their places on the governing authorities of the University would be appointed by the college authorities and not by the University. A college principal, however, should have an intellectual reputation sufficient for inclusion on the university staff and should be regarded as a teacher rather than as an administrative officer. The colleges will have their own staffs some members of which will be appointed university teachers and will be engaged in the teaching work of the University, and others will be engaged in giving valuable tutorial work to the pupils in a private way and will take their part in the social and athletic life of the University. The witness advised an approach to the Australian type of university except that the staffs of colleges should be eligible for university appointments. The University would also have its own staff of teachers. By this means it might provide substantial additions to the college staffs. It would be beneficial if certain members of the university staff were attached to a college. The college therefore will be more than a hall of residence or a hostel in that members of its staff may be employed as university teachers, and a good deal of the lecturing work, and especially that of the intermediate classes, might be given in the college premises, though it would for the most part be university, not college, work and would be open as much to the students of open colleges as to those of that in which it was conducted.

13. *Geographical position of colleges.*—Only those colleges which are within the radius that makes inter-collegiate lecturing and teaching feasible should be admitted to the new university. On being invited to give a more detailed explanation of this point, the witness referred to the Ramna site which is a mile and a half long and a mile broad. The Benares University is two miles on every side, perhaps a little more along the river. As regards Calcutta the witness contemplated the inclusion of the Presidency, Sanskrit, Law and Medical colleges and any others which are within a mile of the senate house. He would not object to a slight enlargement of this area. It would possibly be necessary to make an exception in favour of the University College of Science. The witness, however, was not in favour of extending this area to any great measure because he was anxious that the new university should cut adrift from the present affiliating system. He did not wish any measures to be adopted which would lead people to despise the affiliating university which had done excellent work for India and had produced famous men. The constitution of teaching universities should not prevent the continuation of the affiliating universities. The witness foresaw a gradual process of crystalisation in Bengal and in India. Unitary universities will be constituted in places where the affiliating organisation still remains. Colleges will gradually draw together and converge into groups.

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Apart from the geographical difficulty, the witness did not desire the inclusion of a large number of colleges in the Teaching University of Calcutta. He deprecated the constitution of large and unwieldy universities. A university of 10,000 to 15,000 students is too big. If the University were too large or too scattered, all chances of a common university life and of interchange of ideas between professors and students would be destroyed. The centralisation of teaching at a particular spot gives a great sense of unity to the teaching staff.

14. *The control of teaching. Relations between the University and the colleges.*—The witness said at the outset that the connection between the proposed university and its colleges and between the colleges themselves would be much closer than that between an affiliating university and its colleges or that between the affiliated colleges. The witness foresaw the concentration in the hands of the university authorities of much of the power and many of the functions now resting with the colleges. The University will have full control over the teaching and will not be content merely with prescribing the courses and curricula and conducting the examinations. The whole idea of a unitary university assumes that the central academical body will wield very large powers and will be able, after consultation with the colleges concerned, to over-ride individual differences between colleges. The University, therefore, will decide on the courses and where, by whom, and when the lectures will be given. It will also have a say in the appointment of the college staffs.

The University should have a certain amount if not the entire control of subsidies to colleges. Government subsidies should be given to colleges partly direct and partly through the University. The University will also ordinarily provide an addition to the salaries of such college teachers as are employed by the University.

The witness deprecated looking at the matter primarily as a monetary transaction. The colleges will participate in the privilege of living within the ring fence of the University and in the benefits conferred.

15. *The government of the university.*—The witness had not made any definite suggestions on this point in his written memorandum because he did not wish to tie himself down to any particular scheme. He felt very strongly, however, the importance of giving very considerable independence and power to the academic body. The constitution of the academic body would be varied according to circumstances. The administrative body which would consist partly of lay, and partly of professorial, members, would have considerable power over the purse. It would lay down the subjects of study but not the curricula, and would leave the whole of the teaching, examination and discipline to the academic authority. In these matters the academic authority would be completely independent. The witness advised an approach in this respect to the Benares constitution in which there are statutes and regulations. The statutes are within the scope of the administrative, and the regulations of the academic, body. It may, however, be objected that the governing bodies in the Benares University are too numerous. In the Dacca scheme the policy was to have a single body which would be both executive and academic; and such a scheme might do in some cases.

16. *Dacca University.*—The witness explained that many changes had been made in the scheme drawn up by the Committee. In the final correspondence it was arranged that the University should be practically of the uni-collegiate type. For sentimental reasons the term "college" had not been dropped. It will probably be necessary, however, for the hall of residency to become a college so far as the intermediate classes, and especially those in English, are concerned. This arrangement will not prevent intermediate students from attending lectures at other colleges. It had originally been intended that the B. A. pass teaching should be partially conducted in the colleges, but this idea had been abandoned, save for tutorial work. Colleges at Dacca therefore will be much like halls of residence undertaking merely tutorial work. Each college at Dacca will be under the control of a principal who will be *ex-officio* on the university council. The numbers in a college should not exceed 300. With the increase in numbers new colleges will have to be created. So far as supervision of hostels is concerned, each college should be divided into six parts, each under separate supervision.

17. *The University of Bengal.—Arrangement of courses.*—The witness said that his proposed University of Bengal would include the mufussil colleges and also such of the

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Calcutta colleges as were not included in the proposed Teaching University of Calcutta. There will then be groups of colleges in Calcutta, in Northern and Western and in Eastern Bengal. Each of these groups will have local faculties which will conduct examinations locally, with the assistance and supervision of external examiners. Decentralisation in this direction is very essential. Examinations should be conducted on such a scale that proper methods will be possible. By this means the present formality of the examinations would gradually disappear. In the course of time the number of examination papers may be reduced and greater attention paid to the records of students. The central academic body at Calcutta will frame the curricula in all subjects of study. The local faculties will send delegates to advise in matters of policy.

18. *New local universities.*—The witness said that in the course of time he hoped to see new localised universities constituted at Chittagong, Rajshahi, Gauhati and Berhampur. Chittagong is pre-eminently suited for such a university. Many risks should be taken in constituting these universities at the earliest opportunity, as schemes such as these are apt to remain on paper and never materialise. Delay is fatal. These centres should not wait on each other, but as soon as a centre is ready it should be turned into a localised university.

The witness agreed that it was necessary at once to come to a decision which centres should become in time localised universities. Some indication therefore should be made at the very start of the new scheme that certain centres are capable of development so that the localities concerned may make greater efforts. Each centre should have a definite goal placed before it, the attainment of which depends largely on its own exertions. Future expenditure by Government therefore should be concentrated as far as possible on these centres. Special schools of studies may also be attached to these centres. A centre, such as Rajshahi, therefore might be permitted to grant degrees in subjects such as Sanskrit and early Indian history before it is severed from the affiliating University of Bengal. A certain degree of autonomy might also be given to these centres in the matter of appointments. The witness said that Government was fully alive to the necessity of buying up land in such centres for educational development. It would be difficult, however, to give the colleges an enlarged degree of responsibility and freedom so long as they remained members of the affiliating ogranisation.

The President said that it was necessary to provide the best "jumping off" point for these potential universities, which will require careful nursing for a number of years. It was possible that the University of Bengal would be an institution with little money, influence or experience. The witness said that he had realised these difficulties, but he thought that the potential universities should be connected with the Affiliating University of Bengal and not with the Teaching University of Calcutta. He agreed that these institutions would require stimulation and guidance during the years of transition.

19. *Standardising agency.*—The witness explained the scheme put forward in his written memorandum for the holding of examinations for employment. A large central examinations board might be necessary. It is possible that there might be provincial agencies working under this central supervising board. If for certain posts it is stipulated that graduates only are eligible, there would be no great objection to cramming institutions as these might be useful places of intensive study. But he did not think such institutions would arise. The service examinations would be based very largely on the university courses. There may be similar examinations for the recruitment to the subordinate posts in Government service.

This examining agency might be a satisfactory means of enforcing indirectly certain standards in the several universities of India and might thus enable Government to grant the universities a greater measure of freedom and autonomy.

20. *Medium of instruction.*—The witness said that it was possible to exaggerate the text-book difficulty in introducing the vernaculars as *media* of instruction. Science books can be translated, but unfortunately soon become out-of-date. Moreover, scientific periodicals rather than the text-books are coming to be of importance and these can scarcely be translated. In regard to books dealing with the humane studies, the spirit of the books may be lost in translation. The great difficulty, however, is in the choice of the vernacular. Even in Bengal the problem is not as easy as it may appear at first sight. The

Musalmans though they speak Bengali do not understand Prakritic words, and the Hindu boys do not understand Arabic words. The use of English technical terms will expand into a hotch-potch language, which is clearly undesirable. The use of some words again will be antagonistic to the feelings of certain communities. For example, a Musalman would object to the word "*Ishwar*" and a Hindu to "*Khuda.*" In other provinces, such as Madras, Bombay or the Central Provinces, the difficulties resulting from a number of vernaculars would be almost insuperable.

21. *Post-graduate studies.*—The witness had heard some complaints against the new organisation of these studies. College teachers should have a greater security of tenure. The increase of examination fees for paying the expenses of the post-graduate classes had been commented upon. The new system is apt to depress colleges and college teachers. It was also opposed to the principle laid down by the London University Commission's Report regarding the continuity of teaching which is so essential. There should be no divorce between the graduate and the post-graduate work. If any development of the system is intended it should include a vertical rather than a horizonatal division of studies, and this be considered a strong supplementary argument for the creation of new unitary universities.

SIRCAR, The Hon'ble Sir NILRATAN.

26th February 1918.

Commerce.—The witness believed that once the mercantile community directed its attention to commercial and industrial education, the present difficulties would be overcome. He quoted the opinion of Mr. Findlay Shirras that the mercantile community is becoming interested in commercial education and will co-operate with the University. There will be no difficulty in finding teachers. Members of business firms have already been of some assistance in giving courses of lectures. As regards apprenticeship, there is a difficulty such as has arisen to some extent in Bombay. The witness hoped, however, that a limited number of students will find admission into firms as apprentices. Young men who are undergraduates of the university should be admitted to offices on their merits and no special preference should be needed. The witness was in favour of carrying on the theoretical and practical courses concurrently. Office hours are usually between 10 and 5. It would be convenient therefore to hold the lectures either in the early morning or in the evening. The boy should be primarily considered as students of the University and not merely as employees of a firm. As far as possible, the practical training given in offices should be of such a nature as would not make them mere clerks, but would enable them to become conversant with the methods of commercial management.

2. *Industries.*—Leather tanning, oils and fats, dyeing, pottery and sugar industries are important industries that will be developed in Bengal in the near future. In regard to the leather industry, it is necessary to train up practical men for the management of tanneries as well as workers for scientific research. There should be a school of tanning to meet both these needs. There should also be a demonstration factory. The Munitions Board are intending to start an experimental research tannery. The nucleus of a technological institute connected with the University should be started in the near future and the institute should be expanded as far as possible in accordance with some settled plan. There should not be any undue delay in starting it as it has become a necessity. The witness deprecated delay until Government had made up its mind.

3. *Medical training of women.*—The witness urged the provision of facilities for women to study medicine. Admission is now closed to women at the Medical College. There is one lady student at present at the Belgachia College. The military classes should be removed from the Medical College if necessary, in order to make room for lady students. The witness anticipated that from six to twelve lady students would apply for admission each year. The witness was not in favour of constituting as yet a separate medical college for ladies. The staffing of a separate medical college for women would be very expensive

SIRCAR, The Hon'ble Sir NILRATAN—*contd.*

and difficult. The witness protested against the proposal to sell up the women's boarding house and transfer the proceeds to Delhi. The encouragement of Delhi should not be at the expense of the lady medical students' classes in Bengal. These students should not be compelled to go to Delhi by the closing down of facilities in Calcutta. The arrangements at Delhi are not suitable for Bengali lady students. Certain addition should be made to the courses at the Bethune College for the benefit of those who wished to become medical students.

4. *A school of dentistry* is a great necessity. Lectures on dentistry are given at the Medical College, but they are not sufficient.

5. *Recognition of schools.*—Schools apply to the Syndicate for recognition. The Syndicate refers to the Department of Education which instructs an inspector to visit the school and submit a report. The school authorities usually make improvements in accordance with the recommendations of the Department and, in a few cases, they are able to satisfy the Syndicate, but not the Department. Differences arise between the Department and the Syndicate in this way. The witness said that this dual control has been a source of great trouble. He thought that a mixed board might be constituted to deal with these questions. The inspectors should be the officers of such a board.

6. *Indian system of medicine.*—The witness held that the Indian colleges should introduce a study of this system. There has been great neglect in the past in this respect. The medical students should make study and investigation of this system. Much will have to be rejected from the Indian medical books, but something of value might be extracted. The results of these investigations should be published.

7. *Agriculture.*—The Senate has recommended a degree in agriculture. The detailed scheme is still under consideration. He thought that agricultural graduates might be employed by zamindars on about Rs. 70—100 per mensem. Up to the present the zamindars have not employed such graduates to any appreciable extent. There are immense possibilities in the development of the agricultural resources of Bengal. Government will require teachers and demonstrators in agriculture. There is a great future for agricultural industries. A young agricultural graduate might earn Rs. 3,000 to Rs. 4,000 a year by starting some farms like sugarcane farm. There are also the possibilities of farming in other lines, as poultry and dairy farming, fish culture, etc. Such industries might be started on a small scale and with a small outlay. One difficulty is to be found in the permanent settlement of land which practically prevents the purchase of big plots of land. The witness anticipated the output of some 30 agricultural graduates a year. The great necessity is to divert students from law to agricultural and other pursuits. The degree is a great attraction to students. Without a degree the good students will not be attracted to agriculture or any other branch of vocational education. The witness would prefer the constitution of an agricultural college in or close to Calcutta.

8. *Relations with the Government of India.*—At present it is only in matters in which the Government of Bengal are concerned that it is consulted by the University. Correspondence is conducted by the University with the Government of India through the Rector. The witness approved the present relationship with the Government of India. The Government of India was more likely than the Government of Bengal to provide the requisite funds. In this respect the position of the Calcutta University has always been more advantageous than that of other Indian universities.

9. *Hostels.*—A medical committee should be constituted to advise in regard to physical education, diet, lighting and such like matters relating to the health of students. The recommendations should not be compulsory on students at the present stage.

10. *Education of girls.*—The development of girls' education is very slow in Bengal. At the same time there is growing up a keen desire for the training of girls. The accommodation in girls' schools and colleges is not sufficient to meet this demand. More private schools should be started and there should be more Government institutions. One of these might be a *purdah* school. There is not the same necessity for every girl to pass the Matriculation as there is for boys, though many of them would prefer to go in for the university examination. The teaching should be so far as possible in the hands of women teachers.

STERLING, T. S.

23rd February 1918.

B A. and M. A. teaching.—Colleges at present preparing for the intermediate examination should be made first grade secondary schools. The B. A. course should then be reduced to three years with separate courses of study for pass and honours. Only men who pass the B. A. honours examination should be allowed to proceed to the M. A. degree.

The M. A. work should be undertaken by a central organisation. This concentration of advanced studies would make for a fair distribution of lectures which would provide time and opportunity for research work at present denied to M. A. teachers. It would be adivisable to have separate colleges for B. A. pass and B. A. honours candidates.

Boards of studies.—The creation of boards of higher studies during the past year has resulted in the framing of a reasonable and possible course of work for the M. A. examination. I should like to see two boards of studies with their functions defined as follows :—

(*a*) To deal with the B. A. pass course.

(*b*) To deal with the B. A. honours and M. A. courses.

Conversation classes.—During the early year of school-life much attention should be devoted to the teaching of languages (Bengali and English), because training in language is of the essence of education in early years, and training in expression means giving provision to thought. Conversation and reading classes should be encouraged in schools and colleges. A conversation class, held immediately after a reading lesson, will be of considerable help in ascertaining whether the passages read have been understood, will help in the formation of ideas and will make for precision in thought and speech. Before coming to the University, a boy should receive a good grounding in spoken English. The sum total of progress would be much greater than at present if boys could come to the University with a *working* knowledge of English.

Matriculation examination.—(English) I examined papers for the matriculation examination in 1910 and again in 1917 when I was head examiner. I should like to take this opportunity of stating that the quality of the answers submitted in 1917 showed a marked improvement upon that of 1910. The improvement was particularly noticeable in questions on paraphrasing and summarising.

Appointments' board.—I consider the creaton of an appointments' board to be most desirable. Details about professions and kinds of employment open to university men should be made available.

Hostels.—I am in favour of increasing hostel accommodation, and of placing a number of students (say 50) in charge of a professor. Each student should have a room of his own. Play-grounds should be provided close to the hostels.

WILLIAMS, Rev. GARFIELD.

6th February 1918.

Personal experience.—The witness was connected for some years in England with the Students' Christian Movement and was treasurer of the "Colonial Students' Christian Federation." In this capacity he visited educational institutions in many parts of the world and thus became interested in educational problems, though primarily from the point of view of the student. He came to India in 1908 on the invitation of three Bengali students whom he had met abroad and lived and worked among the students in Calcutta. He was attached to the Young Men's Christian Association. His interests in education was stimulated by the political troubles of the time. He then began to realise that the whole future of India depended on its educational development and therefore associated himself directly with educational work. He joined the staff of St. John's College, Agra, and after 4 years accepted the principalship of St. Andrew's College, Gorakhpur. There are about 100 students in the college. Beside the college work the Gorakhpur mission has under his control a number of schools, primary and secondary.

WILLIAMS, Rev. GARFIELD—*contd.*

The witness explained that the report attached to his written memorandum was the joint work of certain educationists and himself. He was unable to disclose the names of his colleagues as at the time when his evidence was given the report was confidential.

2. *Admission to the University of students ill-suited for university training.*—One of the chief causes of weakness in the present university system is that very many students are admitted to colleges who do not require university education in the strict sense and who are not able to follow a university course. The demand for an expansion of university education in India arises to some extent from the fact that no adequate provision is made for a sound higher education in schools. In consequence, the University is regarded popularly as a finishing school. The functions of the University and of the school therefore have been confused. For this reason large numbers of students fail in their examinations at every stage of the university course, and the second and fourth year classes are swamped by failed students to the detriment of good teaching. The unfit should be eliminated before, and not after, admission to the University.

3. *Inefficient teaching in the schools.*—An inefficient school training, especially in English, has had disastrous effects upon the material supplied to the University. Students have not a sufficient knowledge of English as a language to cope with the first two years of the university course. They are expected to appreciate English as a literature, but they are not required to understand English as a language. The University, therefore, has to undertake school, in addition to university, work. Failure is inevitable. The university student also, as a rule, has no definite intellectual interest. His intelligence has not been trained, nor has he been taught to think for himself. This is evident both in the poverty of ideas displayed in original composition and in the choice of subjects made by the students who are guided not by their inclination but by the supposition that certain subjects are easy for examination purposes.

4 *Creation of district high schools.*—The witness proposed therefore the creation of an entirely new type of school preceding the university course. Such a school would include at least the highest classes of the present high school and the classes corresponding to the first and second years of the present university system. In other words, it would be a school covering a period of at least three or four years and ending with the standard attained by the intermediate classes of the University. Many of the present affiliated colleges could find their function in providing this new three or four years school course. Entrance to this new type of school would be by means of a vernacular examination. In this examination English would form a subject for examination, but it would not be the medium of examination. The scale of fees in the district high schools would depend upon the results obtained by candidates in this examination. Boys who take the first class will proceed free of charge to the next stage in their scholastic career. Those who pass in the second class will pay fees somewhat in advance of those obtaining at present; and those in the third class will pay the *per capita* cost of the real expenditure of their education. A similar system of fees based on examination results will also be enforced at the later stage of a boy's career.

5. *Bifurcation of studies in district high schools.*—The district high school is intended for two very different types of boys. Many will receive an education fitting them primarily for the ordinary business of life or for certain stages of technical and professional training. During the later stages of this general and more practical course there will be optional courses adapted specifically to commercial and industrial requirements. By this means the University will be set free to undertake its proper functions, and many boys will be able to complete their education in school instead of as at present, proceeding to a college. The second duty of the district high school will be to provide a course preparatory to university work. Students who take this course will then enter the University with a sound knowledge of the English language and with their general intelligence stimulated by school training and by personal tuition. They will thereby learn that a haphazard combination of subjects totally unconnected with one another is of very little benefit to themselves. The wholesale failure of students in examinations should also be checked very materially.

6. *Some rigidity in the bifurcation of courses.*—Under this scheme it will be necessary that every boy should follow the University *or* the general course as soon as he enters a district high school. The witness admitted that such a choice might be difficult at this

[WILLIAMS, Rev. GARFIELD—*contd.*

stage. Some boys develope later than others and the financial circumstances of parents may alter. This very real difficulty might be obviated to some extent by certain permissible elasticity within the system, depending very largely upon the judgment of district high schools and head masters. A considerable degree of rigidity marking the place of bifurcation, however is essential. The whole atmosphere of the Indian home is in favour of a boy proceeding to the University and the attraction of the Matriculation is tremendous. The B. and C. classes in Bengal failed for this reason and only the weaker boys attended these classes. Employers therefore were disinclined to employ these boys. Conditions being as they are, very few boys will undertake the general course. To counteract this tendency the university course should be more expensive than the general course. Government should recruit the vast majority of its servants from those trained in the special courses attached to the general side of the district high school; and the age limit for entry to Government service should be such as to make it impossible for the failed intermediate and the failed B.A. types of boys to enter Government service. At all costs some system is to be found to eliminate the unfit from the university course before they arrive at the stage of admission to the University. To raise the standard of examinations will be merely to court disaster.

7. *University organisation.*—The witness referred to the defective organisation of the University obtaining at present, and especially in the following ways:—

(*a*) The present universities in India (and especially is this true of the Calcutta University) are universities in name alone. There is no co-ordination of aim and effort between their affiliated colleges. The functions of the University are in fact usurped by the colleges whose individual and competing interests make a sound and consistent university policy impossible. Geographical conditions do not allow of distant colleges being adequately represented upon the university boards with the result that in practice a few colleges at the centre direct in their own interests the policy of the entire University.

(*b*) As a consequence of this, each college finds itself compelled to teach a number of subjects. It must maintain a staff to provide this teaching. The resources of separate colleges can never be equal to the task, but in the attempt to compass it they are debarred from that specialisation which they might otherwise have adopted with advantage. The wastage of material and personnel thus produced is apparent.

(*c*) The only function of the University so far as the ordinary student is concerned, is at present to prescribe courses and to conduct examinations. There is no uniformity in the teaching of the courses. There is no interchange of teachers; there is no central control of the teaching. In practice a professor may find himself teaching courses which are uncongenial, and the student has to submit to an external examination by an examiner who is unacquainted with his personal record and may be totally out of sympathy with the system of teaching—if there has been one—which has governed his preparation.

(*d*) The work of an able teacher is at present confined to the college to which he belongs instead of being at the disposal of the University as a whole. This has two evil effects: the limitation of the teacher's sphere of influence deadens his enthusiasm and deprives him of the main inducements to undertake higher study; while the student has not the opportunity of attending lectures other than those provided by the slender resources of his own college. The smaller colleges are here at a great disadvantage.

(*e*) Hitherto the training of university teachers has been utterly neglected. In practice, a man is appointed to the staff of a college on the strength of his academic career. Owing to conditions of pay, the services of the best Indians are not obtained for educational work, nor is there any provision for training those placed on the staffs of the colleges. Individual professors may undertake this work of training their assistants and in some cases do, but there is no obligation making them responsible for the efficiency of the junior members of their staff.

All these causes again can be classed under one single head. The functions of the University and of the college have been confused. When the college ceases to be

considered as an isolated unit and becomes an integral part of the University these causes too will became inoperative.

8. *Scheme of reconstruction.*—To this end the witness suggested the following scheme of reconstruction. He said that the ideal was undoubtedly to have unitary universities. These universities should be

(*i*) centralised. No colleges should be affiliated to them which are situated outside the city in which they are established. Facilities could easily be devised for students whose houses are at a distance. The railways should issue educational passes for those who live within comparatively easy reach of the University, and hostel accommodation should be made cheap and adequate. Communities and localities should be invited to erect hostels for the benefit of students particularly connected with them.

(*ii*) organised in departments. By this means duplication of staff and of material and waste of energy would be avoided; by this means also uniformity of aim and correlation of efforts throughout the teaching of the entire University would be obtained. Each department would be confined to its own subject, organise the teaching of that subject and hold its own examination. At the head of the department would be the university professor of the subject; he would be the convener and executive officer of the board of studies in that subject; with him both in the department and in the board would be joined as many associate professors as would be necessary for the working of the department; these associate professors would have assistant professors, lecturers and tutors to help them in carrying on their teaching and tutorial work.

The collegiate system as it is at present with its duplication of machinery, its wastefulness and its anomalies will thus gradually disappear, as it is already disappearing in other countries, before the growing demand for efficiency and economy. The colleges will become ultimately as far as possible residential institutions wherein the students may be provided with tutorial assistance and all those amenities which the corporate life implies.

9. *Definition of policy.—Bengal.* There are certain places in Bengal where eventually such universities should be started. It is essential from the very outset that some general conception of purpose should be made to control the planting and development of institutions of higher learning in Bengal. Hitherto no such ideal has dominated or even greatly influenced the course of events. Political, local and purely personal factors have too often proved determinative. Waste and confusion have been the consequence and no strong and symmetrical university system as a crown of an equally strong and symmetrical public school system has been brought into existence. Dangerous as this weakness has been in the past, in view of the large and inevitable expansion of education in the future, its continuance will be disastrous. To multiply institutions or split up universities into several fragments so distributed as to placate political sentiment, to allow rival religious bodies to invade fields fully or more than fully occupied, or to permit misguided individuals to found new colleges instead of strengthening old ones is merely to have institutions born which cannot possibly grow up, superfluous institutions which interfere seriously with the nutrition of those really needed. It is precisely this danger which is imminent in Bengal. If it is to be avoided, it is essential that a broad view of the future requirements of Bengal in respect of university education be taken. In other countries of the world the geographical factor has proved itself of great importance. In a country such as America, for instance, the circle from which a college chiefly obtains its student is rarely 200 miles and usually not over 100 in diameter. Almost invariably the homes will be thick about the base of the institution and thinning out with distance. But in Bengal the problem is made infinitely more difficult by the fact that the city of Calcutta is overwhelming in its potency in the province. Everything centres in Calcutta. With the exception of Dacca, there are practically no other cities worth the name. The prestige of Calcutta becomes enormous and the villager would rather send his boy to the University in the great city than to another university much closer to his own doors. But this state of affairs will not last for ever. It is *now* possible to define geographical areas in Bengal which will eventually be served by separate universities. The population of Bengal is about that of Great Britain, and to imagine that its needs can be met by a single

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university at Calcutta is absurd. There is need therefore of a general conception and purpose controlling the planting and development of colleges which will eventually become universities. The witness suggested five areas outside of Calcutta which in the near future will be served by universities of their own. Such universities will give great opportunities for development along the lines indicated above.

10. *Definition of policy.—Calcutta.* There is still the problem of Calcutta itself. The witness believed that the development of the Calcutta University could not possibly take place on its present site. He pointed out the immense value of the present site for a medical university. Possibly also commercial, legal and technological studies might remain centred in Calcutta. The only way, however, which will admit of the proper development of the Calcutta University is to remove the great bulk of its arts and science teaching and all the students who profit by that teaching to some place or places in the environs of Calcutta where there will be room for development. The witness pointed out a precedent for this action in the Columbia University at New York and the magnificent results that have ensued there. He believed that the growth of the University will be so vast as to necessitate eventually even more than one site for university extension in the environs of Calcutta and that even with the intermediate classes removed from the University the numbers will be still so large as to make this movement of the University a gigantic task, but a task that must be undertaken now if ever. To leave the University to grow on its present site—as grow inevitably it will—under conditions which cannot be changed and can be very little ameliorated would be to court disaster. Once move the arts and science classes and the respective colleges outside of Calcutta, there will be the opportunity of starting afresh on right lines. The witness brought this part of his evidence to a close by making a strong plea for this drastic reconstruction. In view of the undoubted ability of the Bengali student, in view of the undoubted commencement of a great renaissance in Bengal, in view of the rapid development in political life, in view of the tremendous difficulties, moral, intellectual and physical, under which Bengali students have now to work, he hoped that the University Commission would see its way to suggest heroic measures of reform.

11. *Political, social and economic factors.*—The witness laid stress upon some of political, social and economic factors which are in the last analysis responsible for the defects in the present university system. He pointed out that there are certain political reasons at the basis of the demand for quantity rather than quality in university education and that these reasons are to a large extent legitimate. If the University is reformed without any attempt to deal with the political questions involved, not only will a great wrong be done to the people of India, but the reforms themselves will be doomed to failure. India is at the birth of a great renaissance and the Indian has grasped in some measure that education is the avenue through which he will gain emancipation. The educated people of India are fearful lest the British Government will attempt to employ education (as the German Government has in Germany) in order that as a ruling power it may manipulate the individuality of the Indian citizen.

To what extent the Indian has realised exactly the part which education will play in the future of India is difficult to say, but in some dim manner he has realised its vital necessity to political growth. For this reason the future increase of the demand for education will be far greater than in the past. Owing therefore to the very magnitude of the problem the present is the last opportunity of putting the educational house in order before the great and overwhelming force of this educational renaissance is in full swing. Leave the problem of education unsolved for another five years and its very magnitude will render it insoluble. The witness also laid emphasis on certain economic reasons which played a great part in the causation of the present university problems. The knowledge of English has become a commercial asset, and education has in many cases degenerated into a machine for turning out Indians with a knowledge of English. Parents or the senior members of a joint family enable one member of the family to become a graduate and therefore assured of an income. From this income the parent or the "joint family" are repaid. University education therefore has become a commercial speculation on the part of a joint family. This condition must be changed. But it cannot be changed merely by neglecting the social and economic factors that lie behind the state of affairs. The needs of the younger members of families or at any rate of that vast majority of them

who are not fit—and who in no country of the world would be thought of as fit—for university education must be met outside the University. The University must be saved from the overwhelming incubus of the enormous number of students who throng its halls without any real capacity to profit by its instruction. This change cannot be brought about merely by neglecting the economic factor. The witness emphasised at this point the fact that even if those students who are unable to profit by university education were removed outside the University, still within ten years the number of students who would be fit to undergo university training would be so great as to demand a present reconstruction of great magnitude. The witness said that he saw no possible way of preventing the economic crisis which will come inevitably and with startling rapidity upon the educated classes of Bengal. Within a very few years there will be in Bengal thousands of educated young men without any proper means of livelihood. Parents will then find that it does not pay to give their children university education, but by that time the political factor will have developed to such an extent that the demand for education will, as a matter of fact, be greater than ever. In other words the economic factor will react in an opposite direction, but too late to save the situation. The situation can only be saved by a concomitant expansion of commercial and technological pursuits. But the whole social system of India will militate against any rapidity of expansion. It will only be through a great economic crisis that the mass of the educated Indians will be forced to enter the field of commercial and manufacturing activity. A solution to the problem, therefore, will not be found in the expansion of commercial and technological education. Such education must follow and not precede the factory. There must first be a complete change of attitude on the part of educated Indians towards commerce and industry before the universities can be of any great assistance during this time of crisis.

Certain social reasons intimately, though not wholly, bound up with the economic factor also, according to the witness, affected the demand for quantity rather than quality in university education. University education has a marriage-market value and this is a more potent factor than is sometimes realised.

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Organisation of the University.—The witness explained and discussed some of the points brought forward in his additional memorandum which dealt with the possible reconstruction of the University. He had not included all the Calcutta colleges in his proposed teaching university, because he thought that the numbers in a teaching university must be comparatively small. A teaching university involved a larger proportion of teachers to students than obtained at present, and some existing colleges would be unable to finance themselves under such conditions. The whole problem was largely financial. He suggested the inclusion of the Medical, Presidency, and Scottish Churches Colleges, but could not speak definitely of others as he was not in possession of the necessary information. The witness anticipated great advantages to be derived from the separation of the work done in a teaching university from the work done in a university that merely examines. He had proposed the constitution of a University of Bengal as an examining university to consist of the weaker Calcutta colleges and the mofussil colleges because he realised that a very large number of students required higher education. He admitted during the discussion that there might be friction between the two universities, although it had not occurred to him that friction was inevitable or to be regarded as a serious difficulty, but he saw no reason why this difficulty should not be overcome if it arose. The great necessity was to relieve the present organisation of the University from the excessive burden of work with which it was faced. With this end in view it was most desirable that the schools should be permitted, and enabled, to keep their pupils until they had reached the standard of the present intermediate examinations.

2. *Tutorial guidance.*—The witness was very strongly in favour of a good tutorial system being introduced. Individual attention is essential. He hoped that the colleges of the proposed teaching university might be able to undertake this important duty,

provided that the University could organise the provision of lectures. The college tu[illegible] would themselves be eligible for appointment to university posts.

3. *Examination.*—The witness was strongly in favour of the publication of full exami[illegible]ners' reports as being of great value to the teachers. In his early days as an examine[illegible] the University, he had been in the habit of submitting a report to the Syndicate who h[illegible] circulated his suggestions to the colleges concerned. He advocated continuance of t[illegible] practice on a much wider scale and therefore approved the constitution of a board of exami-ners whose members would hold office for a given period of time and issue repor[illegible] commenting on the work done in the examinations. The University and Governme[illegible] might each appoint members to this board.

4. *Cambridge examinations.*—The Cambridge examinations have had a most stimul[illegible]-ing effect on the teaching of European schools. The Calcutta University recognises these examinations provided that the candidates have passed in certain subjects. It would be better if the Calcutta University considered each examination as a whole.

5. *Vocational training.*—The witness said that a large number of boys entered a busi-ness career without proceeding to the University. The calibre of these boys would be improved if the work of the schools were continued until the present intermediate sta[illegible] was reached. The schools might also provide facilities for practical and vocational trai[illegible]-ing.

6. *European education.*—The Anglo-Indian community suffers from a narrowness of outlook which might be lessened by a liberal education. The ordinary cultural influences are not available to the community. The witness therefore favoured the attaching of hos-tels for Anglo-Indians to the University, to take students who had passed while at school, the intermediate examination or its recognised equivalent.

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The value of examinations.—A well and judiciously conducted examination can be [illegible] very great value to schools. It is, in many cases, the only standard and guide which schoo[illegible] masters can have in carrying out their work. Under present conditions, assistant masters receive very little guidance from the head masters; and head masters receive very litt[illegible] guidance from inspectors who are very busy officers. Generally speaking, school master[illegible] are left to do the best they can with no more guidance than can be derived from the mat[illegible]-culation syllabus. The position is somewhat better in the colleges.

The matriculation examination dominates the schools whose only ambition is to gai[illegible] successes in that examination. In consequence, whatever evils there are in the matri-culation syllabus impress themselves on the schools.

2. *The medium of instruction.*—The teaching of English would be improved if schools were permitted to make it a second language and not the medium of instruction in the higher classes. The primary aim at present is to acquire fluent expression in English. The one standard that the teacher sets before the boys is easy fluency and rapidity of utterance. Accuracy of utterance, accuracy of writing and a clear conception of the relations between utterance and thought are entirely wanting in the majority of schools. If the boys were taught English grammatically and synthetically by translation and re-translation they would have an equipment at the age of sixteen which would rapidly give them a command of the language for practical purposes. The boys should also be associated with teachers who themselves have a good working knowledge of English. The present teachers, as a rule, have not that working knowledge of English, and ignore accurate linguistic and grammatical teaching. The boys, therefore, acquire a certain fluency, but this fluency has been acquired by reading books and not by association with people. In some mis-sionary schools the teaching is most effective, but in the vast majority of schools the present methods of teaching result in chaos and inefficiency. The first two years at college, therefore, are spent in making up what should have been acquired in the schools.

3. *The teaching of Bengali.*—The teaching of Bengali is worse even than that of English. There appears to be no standard in Bengali. At least, teachers do not appear to be

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aware of a standard. So much is this so that very few will dare to say whether a piece of writing is in good or bad Bengali.

4. *Recognition of schools.*—The witness stated that he had only been an inspector for a few months, but he had been on the Syndicate for two years and was now in charge of the Director's office. The present arrangements for the recognition of schools are most unsatisfactory. The University lays down a certain standard of efficiency, which a school should satisfy. The only man, however, who can see whether the school satisfies this standard or not is the inspector of schools. The inspector's opinion is not always accepted by the Syndicate ; in some cases, rightly so. The practice has arisen that in cases where the inspector's opinion is unfavourable, the school deputes envoys to interview the Vice-Chancellor and other members of the Syndicate and point out where the inspector is wrong and where he is prejudiced. The Syndicate, therefore, tends to become the arbitrator between the school and the inspector, whereas the inspector should be regarded as the agent of the Syndicate.

The witness then explained the procedure in the Director's office. The inspector submits to the Director his report and recommendations. The Director, after reviewing the previous papers on the subject submits his recommendation to the Syndicate.

The witness thought that many of the present difficulties had arisen through misunderstanding. The recognition of schools might be managed by a committee representative of the Government and of the University. A sub-committee of two members of the Syndicate, the Director of Public Instruction and two divisional inspectors of schools is considering how present misunderstandings can be removed.

5. *Admission to the college.*—The witness suggested the following three ways of admission to the University :—

(*a*) The Matriculation.

(*b*) School-leaving certificate.

(*c*) A principal of a college should be permitted to admit to the first year classes any applicant whose equipment was sufficient, though he had passed neither (*a*) nor (*b*). Such student would pay the full matriculation examination fee on admission.

In regard to (*c*), the witness referred to a recent case which had been brought to his notice. An Indian boy, educated at St. Xavier's, was considered by the witness worthy of being placed in the third year class and was promised admission to this class, as he did not intend to read for a degree. He then decided to take a degree, but was unable to join even the first year class as in the senior Cambridge examination he had not taken either Latin or Sanskrit. He is now reading Latin for this year's matriculation examination though he is fitted to be in the honours B. A. class. The witness did not think that the Syndicate acted ungenerously towards Anglo-Indian boys, but difficulties arose owing to the cumbrous nature of the regulations and the Syndicate's want of acquaintance with the work done in the European schools.

6. *School hostels.*—The witness objected strongly to the hostel system in connection with school, except where it is necessary. A large number of schools now try to attract students from outside and are thereby creating an artificial need for hostels.

7. *University reconstruction.*—The witness regarded it as essential to create a university in Calcutta, a university in Dacca and a university affiliating the colleges outside Dacca and Calcutta. He had not sufficient knowledge of conditions at Dacca to be able to say whether or not Dacca University should control the colleges of Eastern Bengal.

The witness thought, however, that even under this proposal the burden of work in Calcutta would still be so heavy that one organisation would be unable to cope with the work effectively. He therefore suggested the constitution of an additional university in Calcutta. The State colleges in Calcutta might be organised into a small university. This university would have its own organisation and be entirely responsible for the control of all education within it. Government would give a block grant to the university authorities. The educational officers of the University would be Government servants on foreign service with the University. They would thus become members of a body which the State will create. The witness realised the defects of a scheme which divided up into two the teaching resources of Calcutta, but his view was determined mainly by the weight of numbers which were beyond the strength of a single organisation. He admitted that

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the pressure might be relieved by removing the intermediate work from the University, by drawing off students at an earlier stage to other pursuits, by making different arrangements for recruitment to certain of the Government services, but he still thought that the numbers would be too great for one organisation since present numbers in Calcutta represented not the pressure on Calcutta but that part of the pressure to which Calcutta had yielded. A great effort should be made to develope a spirit of fraternity between the two universities. The witness hoped that in the smaller of the two Calcutta universities proposed the staff would be enabled to work under conditions which permitted security and comfort. They would be relieved from the domination of syllabuses and from the meticulous dictates of external authorities. The witness admitted that it would require much courage on the part of Government to carry out his proposals. He also felt that the Bengal public was very suspicious about any projected interference with present arrangements. The witness thought that if only 4,000 or 5,000 students were to be accommodated in Calcutta, his case for a twofold organisation in Calcutta would disappear. If the numbers, however, were 10,000 he did not think that one organisation would suffice.

8. *Mofussil institutions.*—The witness then referred to a strong representation in his written memorandum that the proper links of higher education are local links and that the improvement of higher education must come from local connections. He did not know what proportion of the students in Calcutta came from outside Calcutta. A minority of Presidency College students came from outside the city. The minority is admitted because of the hostel accommodation that the college offers, otherwise the college would be entirely a Calcutta college. The rush of students from Calcutta alone is many times greater than the college can accommodate.

9. *The scope of a college.*—The witness expressed a great belief in the college. The colleges are the only institutions in the country which give an educated man any sense of *esprit de corps*, any sense of public opinion, or any sense of the necessity of subordinating himself to general interests. The schools give no training in these respects. The intellectual resources must be developed in connection with the college. The college is a unit of hundreds, but the University is an institution of thousands. The University is a corporation of the forces of the colleges. The witness did not wish to see the colleges definitely incorporated in the University in a way which would deprive them of their autonomy.

10. *Post-graduate studies.*—When the committee of which the witness was a member was appointed there were nearly 400 students receiving M.A. and M.Sc. instruction at the Presidency College and some 20 or 30 in the Scottish Churches College. There were also some 1,300 students attached somewhat indefinitely to the University. The teaching of the University, however, was not organised sufficiently. In support of this contention the witness related the action of a professor who put up a notice that he would not lecture until further notice and then did not appear at the University for three months. An immediate solution of the difficulty was called for and therefore the witness signed the report proposing a reorganisation. He had recently brought forward a resolution in the Senate which had expressed his fear that the scheme as carried out was tending to diminish the resources of the colleges. He would prefer to see each college organise its own M.A. and M. Sc. work, but perhaps only Presidency College would be able to do it; hence the post-graduate scheme is necessary to co-ordinate resources. His want of confidence in the scheme as at present administered was briefly that he feared the walls would be made weak in the interests of the roof: the post-graduate teaching attracts teachers away from the colleges, whereas we want good teachers in the colleges—post-graduate teaching not based on good under-graduate work will not succeed.

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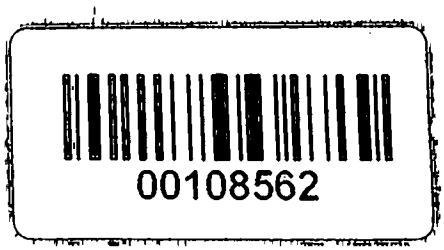

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